

Handwritten initials or mark, possibly "CA".

I. I. KITAYKOVSKIY

Chemical-resisting glass for laboratory dishes. I. I. KITAY, KIMOVSKII AND R. M. KIMOVSKII. *Tranz. Vses. Inst. for Testing Building Materials* (Moscow) No. 31, 3 42(1961). - The object of this investigation was to obtain a glass having the qualities of Jena 20 but of more simple compsn. At the same time it was necessary to be able to prepare the glass under ordinary factory conditions. The compsn. most successful in regard to factory and lab. conditions were the following for glasses no. 843, 844, 845 and 846, resp.: (1) chemical compsn., %: 70, 74, 74, 74, 76; Fe<sub>2</sub>O<sub>3</sub>, 12, 8, 5.5, 2, 4; Al<sub>2</sub>O<sub>3</sub>, 2, 2, 2, 2, 2; CaO, MgO 10, 10, 10, 10, 10; Na<sub>2</sub>O, SiO<sub>2</sub>, 7.5, 10, 7; (2) mineral compsn., sand, 66.4, 71.2, 71.2, 71.2, 72.2, lime 7.7, 7.7, 7.7, 7.7, 7.7; dolomite 19.66, 19.66, 19.66, 19.66; tartar acid 21.4, 14.28, 9.8, 9.32, 7.14; soda 7.7, 7.7, 13.12, 14.7, 22.0; saltpeter 4.0, 4.0, 4.0, 4.0, 4.0. Of these mixts. Nos. 845 and 846 were tested out on a factory scale. A temp. of 1260° was used. Phys. properties and resistance to chemicals of these two glasses were examd. It was found that they completely answer the requirements in regard to resistance to chemicals and temp. changes. It was also found that by using magnesia glass and dolomite as raw materials the desired glass can be obtained. Since the B content is low in glasses 845 and 846, cheap raw materials can be used in their compsn.

S. I. MASHINEV

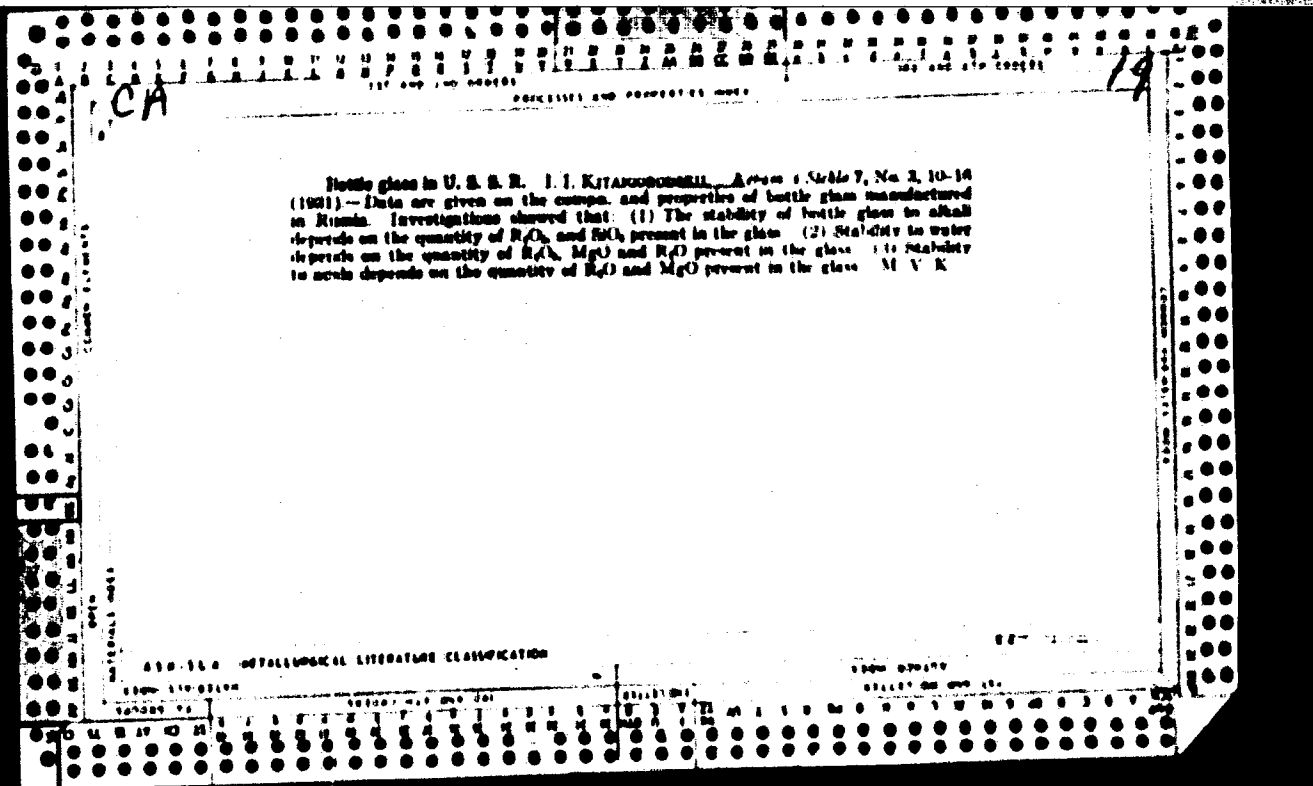
ASB-514 METALLURGICAL LITERATURE CLASSIFICATION

CA

19

Sodium effects on an accelerator in melting glass. I. I. KHALDUNOV and N. V. KURKOVA. *Zh. Prikladn. Khim.* 4, 215 (1951). (In Russian as a source of Na in glass only speeds up the process, particularly of 70D-100H\* (max. at 200°). The quantity of CaO dissolved by molten glass at 1100° is 1.5 times less with NaOH than with other Na salts; this shows that glass is formed at lower temps. V. K. Glass-melting tanks. N. J. SUTLINA. *Kovom. i Stal* 7, No. 8, 24 (1951). The mass of glass melting tanks from the Chasov-Yar refractory clay is described. A tank with a capacity of 1 ton of glass can be used for an av. of 25 fusions. M. V. Kozlov

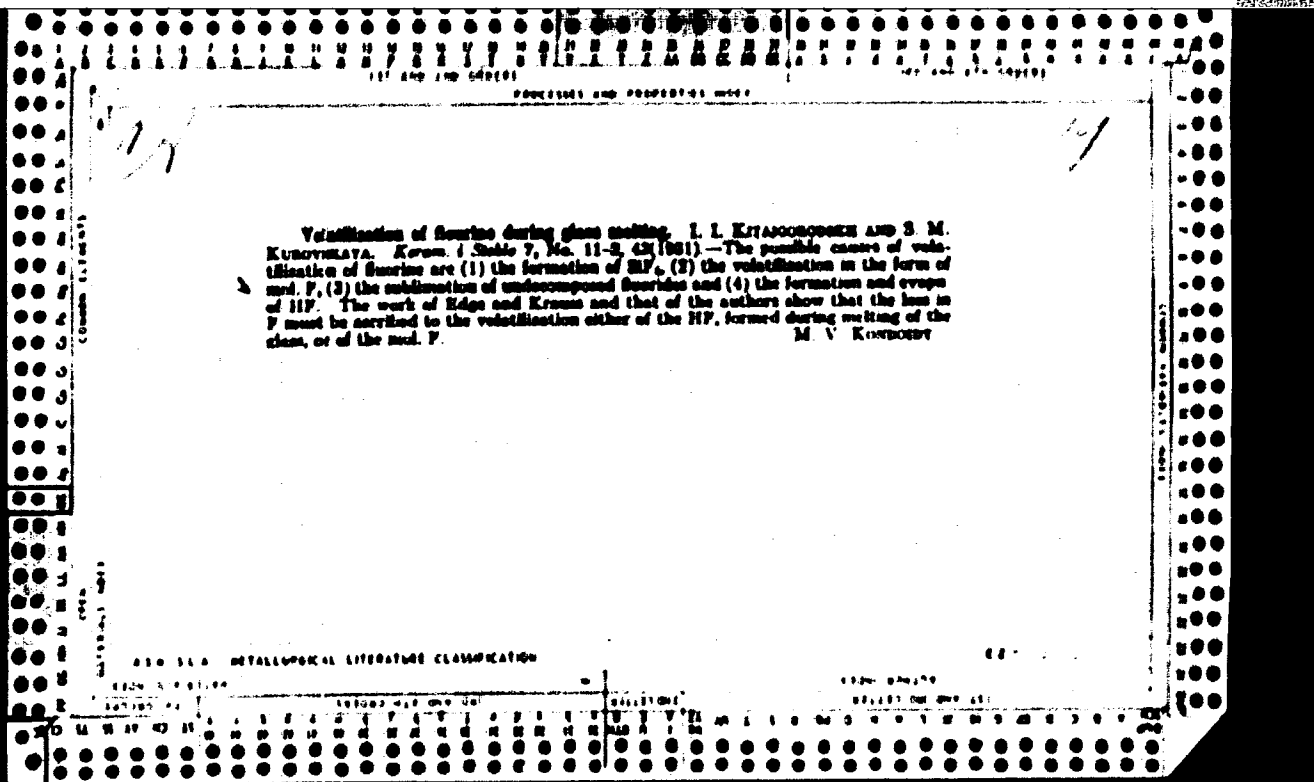
000.554 METALLURGICAL LITERATURE CLASSIFICATION



19

Light absorption of glass colored by iron oxide. I. J. KITAHONOKAMI, T. A. Jurek and N. V. Kuznetsov. *Kovos i. Gled. 7, No. 8, 10 (1961)*. The max of trans-

parency is displaced toward the long waves in the majority of glasses with an increase of Fe content and fused with redoxes (glasses contain MgO, MgO + CaO, CaO + NaO, ZnO and ZnO + CaO). (Glasses with 1% Fe which are most transparent in the blue and violet parts of the spectrum contain CaO + NaO, CaO + MgO, NaO + CaO + ZnO, glasses with 2% Fe contain CaO and ZnO, and those with 4% Fe contain NaO, ZnO and CaO + NaO). Zinc and baryta glasses (without Ca) have a very low transparency in the red orange parts of the spectrum. (Glasses most transparent in the violet part of the spectrum possess a certain transparency in the ultra violet range.  
M. V. Kuznetsov



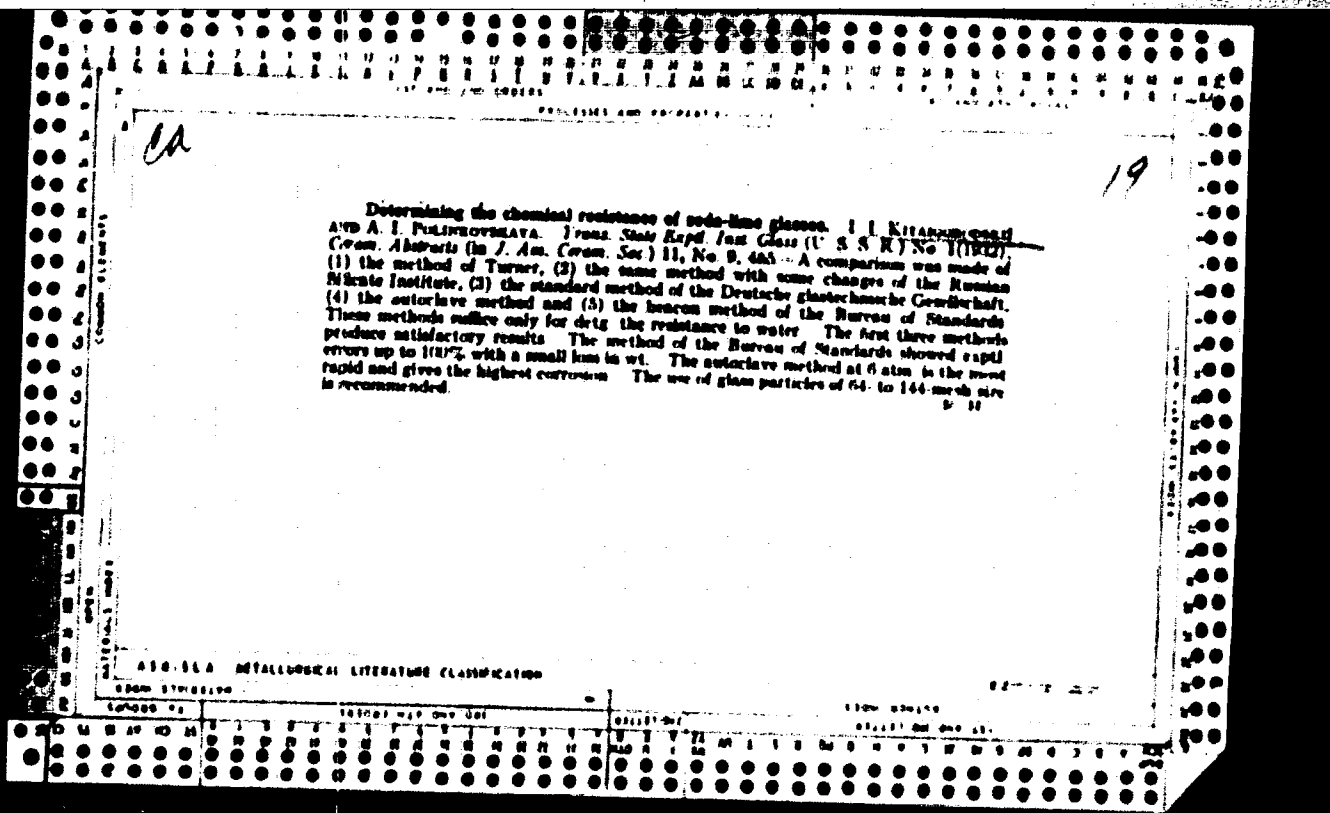
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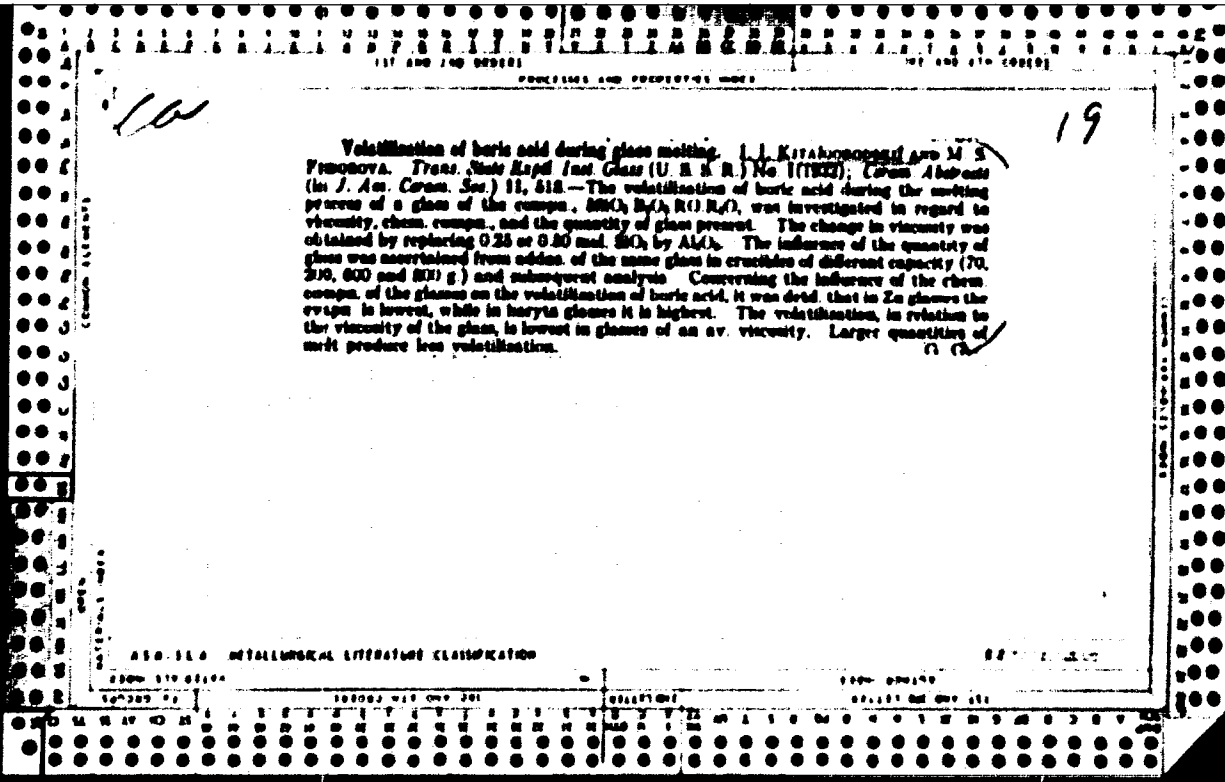
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Influence of aluminum oxide on some physicochemical properties of glass in dependence on raw materials. I. I. KIZALONCHIK AND M. O. CHERNYAK. *Trans. State Dept. Inst. Glass (U. S. S. R.)* No. 1(1952); *Chem. Abstracts (in J. Am. Chem. Soc.)* 11, 464-B.—In 2 glasses of the composition  $82\text{SiO}_2$  CaO 18.4 and  $84\text{SiO}_2$  0.8CaO 1.2R<sub>2</sub>O, 0.1, 0.2, 0.3 and 0.4 CaO were replaced by  $\text{Al}_2\text{O}_3$ . Feldspar, raw kaolin, fired kaolin and  $\text{Al}_2(\text{SO}_4)_3$  were used for this oxide. Thirty-four glasses in A series were melted under different conditions, and it was found that some properties of the glasses were affected by the kind of raw materials in which  $\text{Al}_2\text{O}_3$  was introduced. Glasses with feldspar were softer than those contg. kaolin but much more difficultly purified. Kaolin makes the glass stiffer sometimes and increases the surface stress in contrast with feldspar.  $\text{Al}_2(\text{SO}_4)_3$  could not be used. The resistance to the attack of NaOH was better in glasses with feldspar than in kaolin glasses; the resistance of glasses melted with fired kaolin was higher than that of glasses prepd. with raw kaolin. The inclination to devitrification is the smallest in glasses with feldspar; it is the highest in glasses melted with fired kaolin, and lower in those melted with raw kaolin.

ASB-51A METALLURGICAL LITERATURE CLASSIFICATION







KITAYGORODSKI, I. I.

PROCESSES AND PROPERTIES INDEX

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19

Use of sodium bisulfate in glass manufacture. I. I. KITAYGORODSKI AND M. A. TZARITSKIN. A. I. Zhukovskii, No. 1, 19-22 (1932). — A description of tests made on the use of  $\text{NaHSO}_3$  instead of soda and sulfate in the production of glass. It was found that: (1)  $\text{NaHSO}_3$  may be transformed into sulfate by firing it with coal, or (2)  $\text{NaHSO}_3$  may be used without previous treatment for obtaining glass and silicates, although a larger amt. of silica is reqd. during melting. M. V. Kozlovskiy

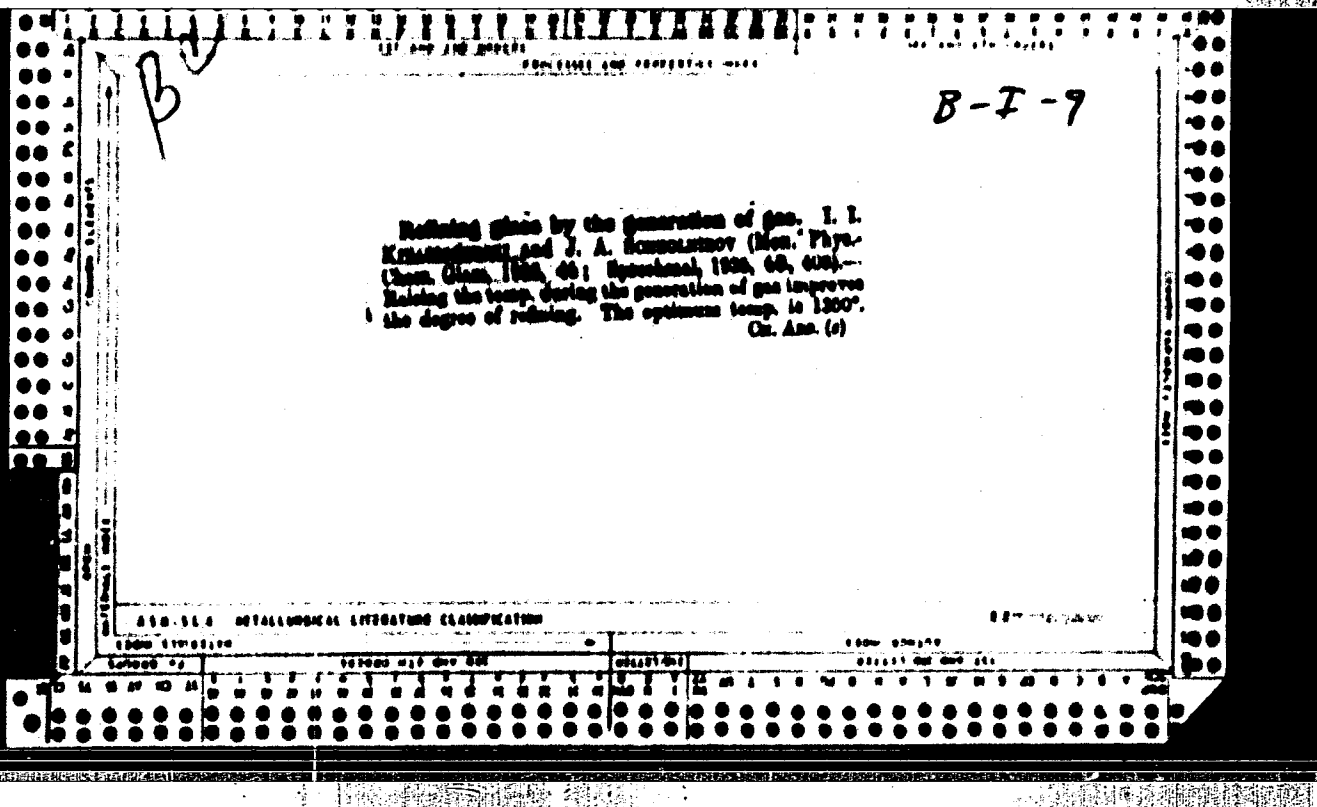
KITAIGORODSKIY, I. I.

ПАМЯТИ ИХИ СВОЙСТВА

CA

Easily fusible lake clays in glass melting. I. I. KITAIGORODSKIY AND V. V. L. ATANKAYA. *Keram. i Staklo* 8, No. 8-8, 23-25 (1932). Attempts to use easily fusible lake clays as the main raw material of the glass batch showed that these clays can be used with success for the manuf. of dark glass. These clays can be introduced into the batch in a quantity up to 93% of the weight of the glass obtained. It is not possible to melt these clays under usual conditions.

19



Thermal analysis of the system Lithium Borate.  
 Mikhail Matkharov, I. I. Kiknadze, T. A. Popova  
 and O. K. Borvishin. *Ann. real. anal. phys. chem.*  
 (Leningrad) 6, 125-9; *J. Phys. Chem. (U. S. S. R.)* 6,  
 250-9 (1932).--A thermal investigation of the system  
 LiF-LiBO<sub>2</sub> was undertaken with the object of finding a  
 glass capable of transmitting ultra-violet rays. The  
 melting diagram contains a max. corresponding to the  
 compound LiF.LiBO<sub>2</sub>. Two polymorphic trans-  
 formations in this compound, at 545° and 565°, were detd.,  
 also 3 in LiF, at 815° and 783°, and 1 in LiBO<sub>2</sub> at 755°.  
 Eutectics were found at 625° for LiF-LiF.LiBO<sub>2</sub>, contg.  
 65% LiBO<sub>2</sub>, and at 710° for LiBO<sub>2</sub>-LiF.LiBO<sub>2</sub>, contg.  
 30% LiBO<sub>2</sub>.  
 N. L. Matkovsky

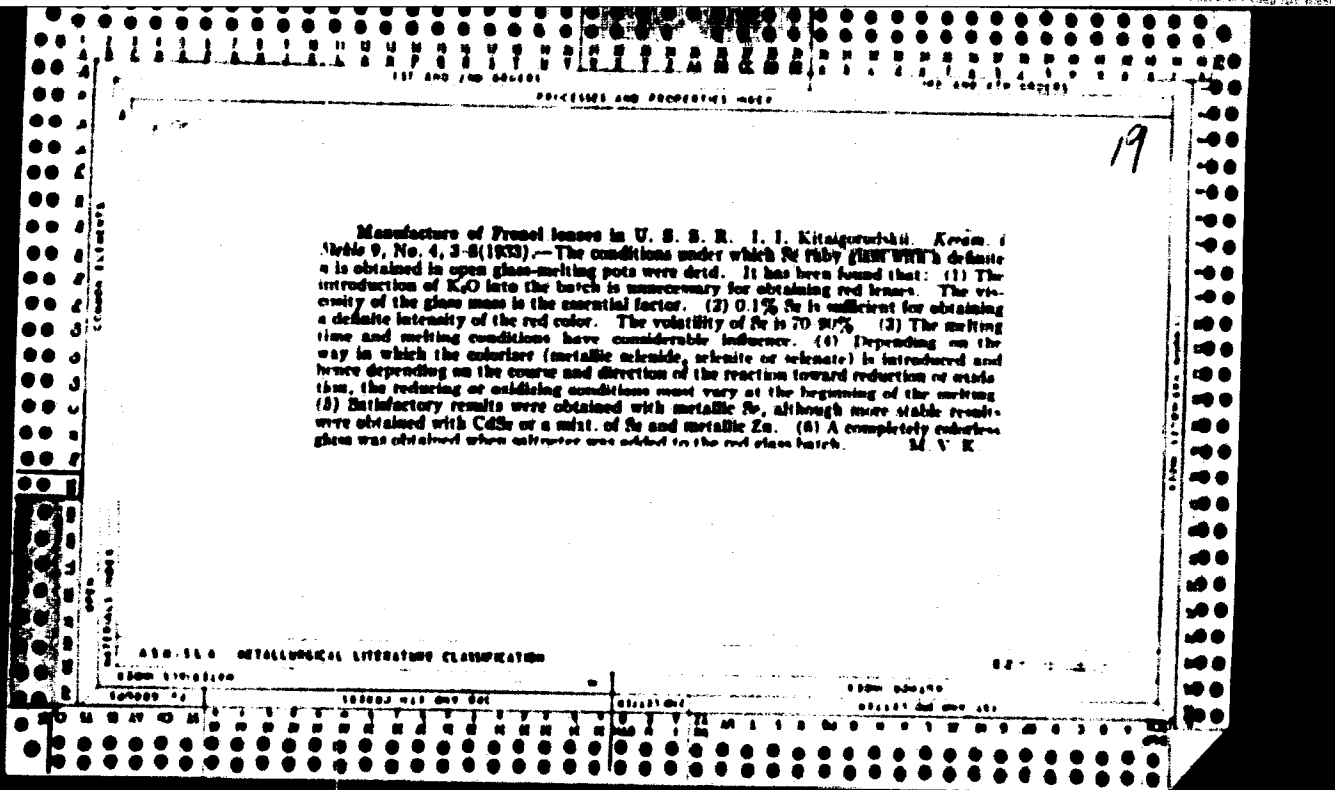
050-516 METALLURGICAL LITERATURE CLASSIFICATION

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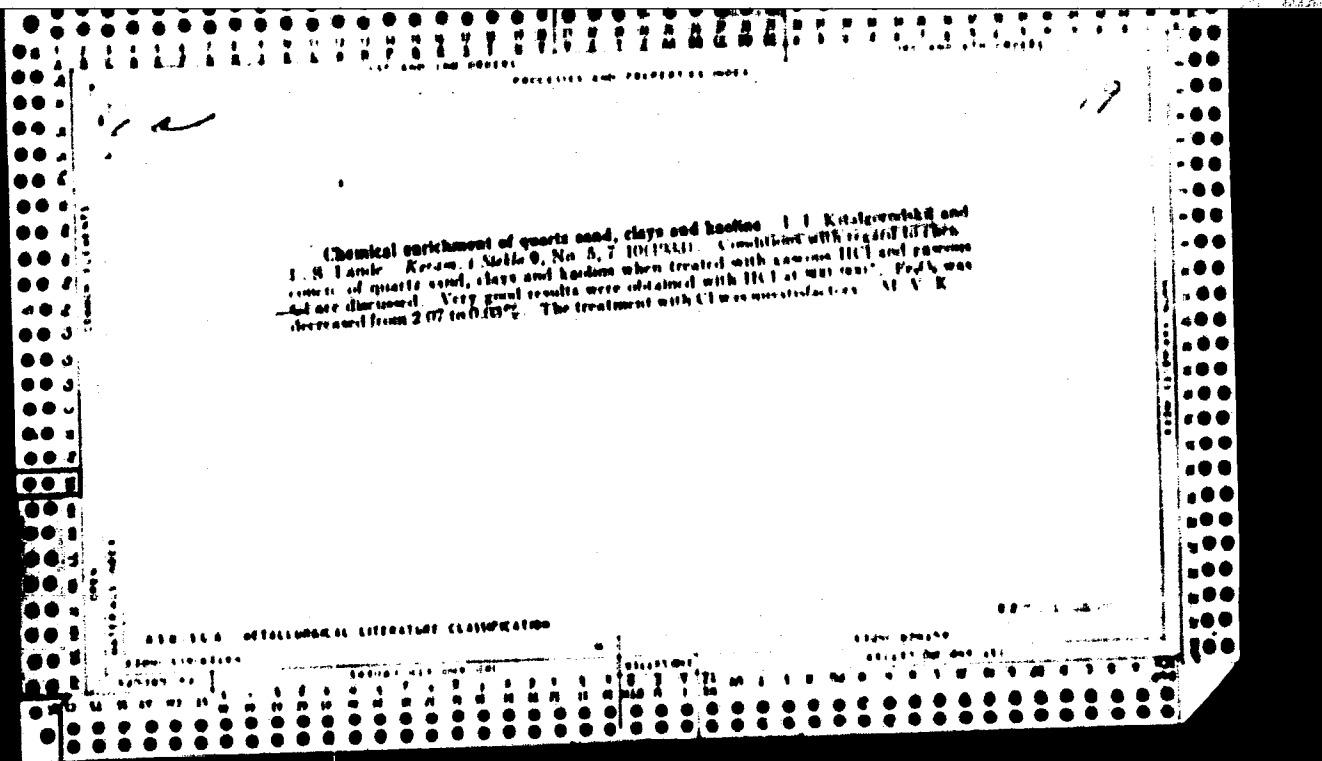
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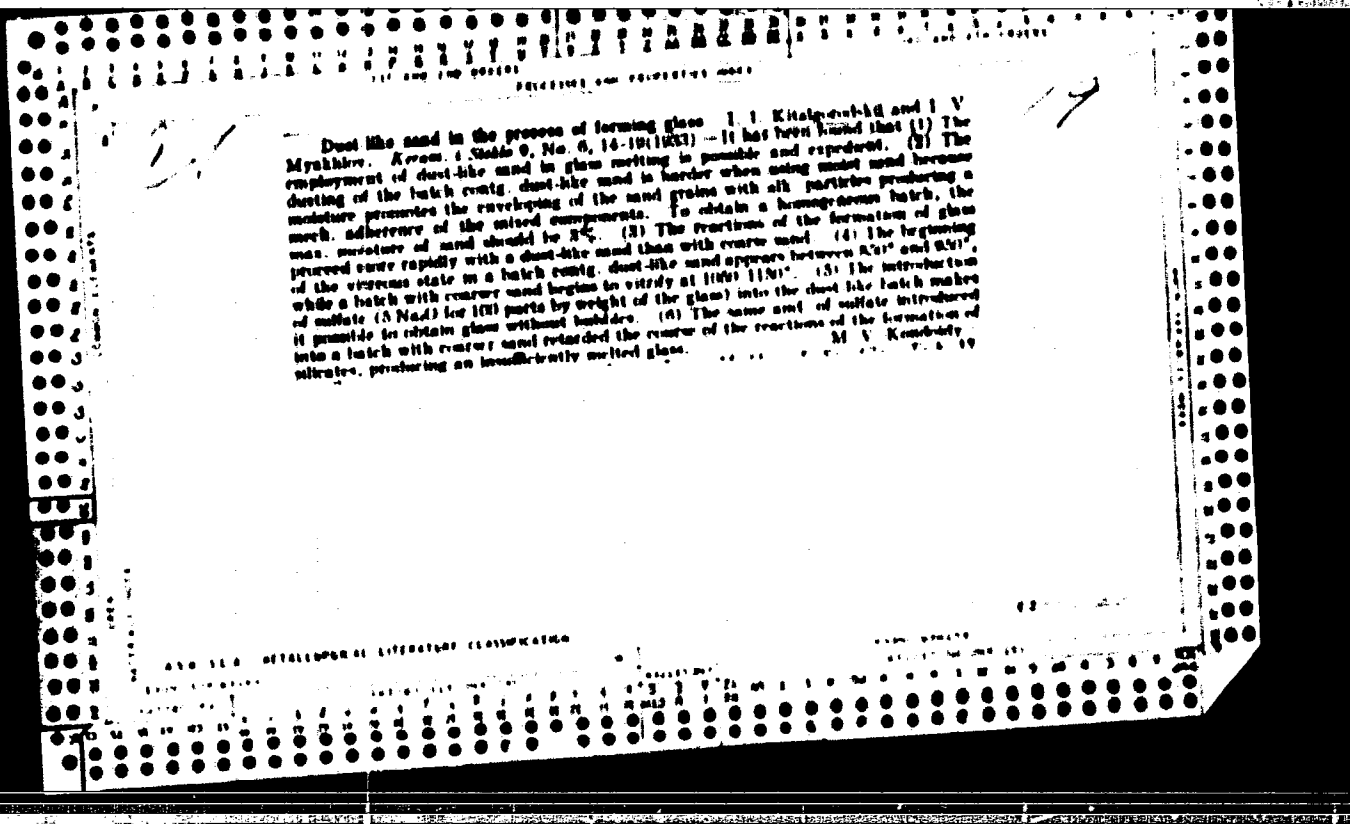
**Magnesia as a substitute for sodium oxide in mechanical manufacture of glass.**  
**L. S. KITABCHENSKI AND N. S. BUDOMAN. Kovec. i Staklo 9, No 2, 22-6(1953)**  
 The partial replacement of Na<sub>2</sub>O by MgO in dolomite was investigated; Mg glasses with  
 addition of Al<sub>2</sub>O<sub>3</sub> were also studied. Dolomite of the av. compn: SiO<sub>2</sub> 0.64, Al<sub>2</sub>O<sub>3</sub> 0.22,  
 Fe<sub>2</sub>O<sub>3</sub> 0.20, CaO 20.20, MgO 20.34% was used. The most important properties of  
 these glasses, as viscosity, ability to crystallize thermal expansion and chem stability,  
 were detd. Partial replacement of Na<sub>2</sub>O by MgO is possible and desirable. Compos.  
 are given for window and bottle glass which would permit the reduction of the Na<sub>2</sub>O  
 content by 20 or 25%. The max. quantity of MgO for replacing Na<sub>2</sub>O is 3-3.5%.  
 The lowering of the Na<sub>2</sub>O content and its partial replacement by MgO improves the  
 quality of the glass, particularly its thermal stability. The working properties of the  
 glass are also improved. M. V. Komarov

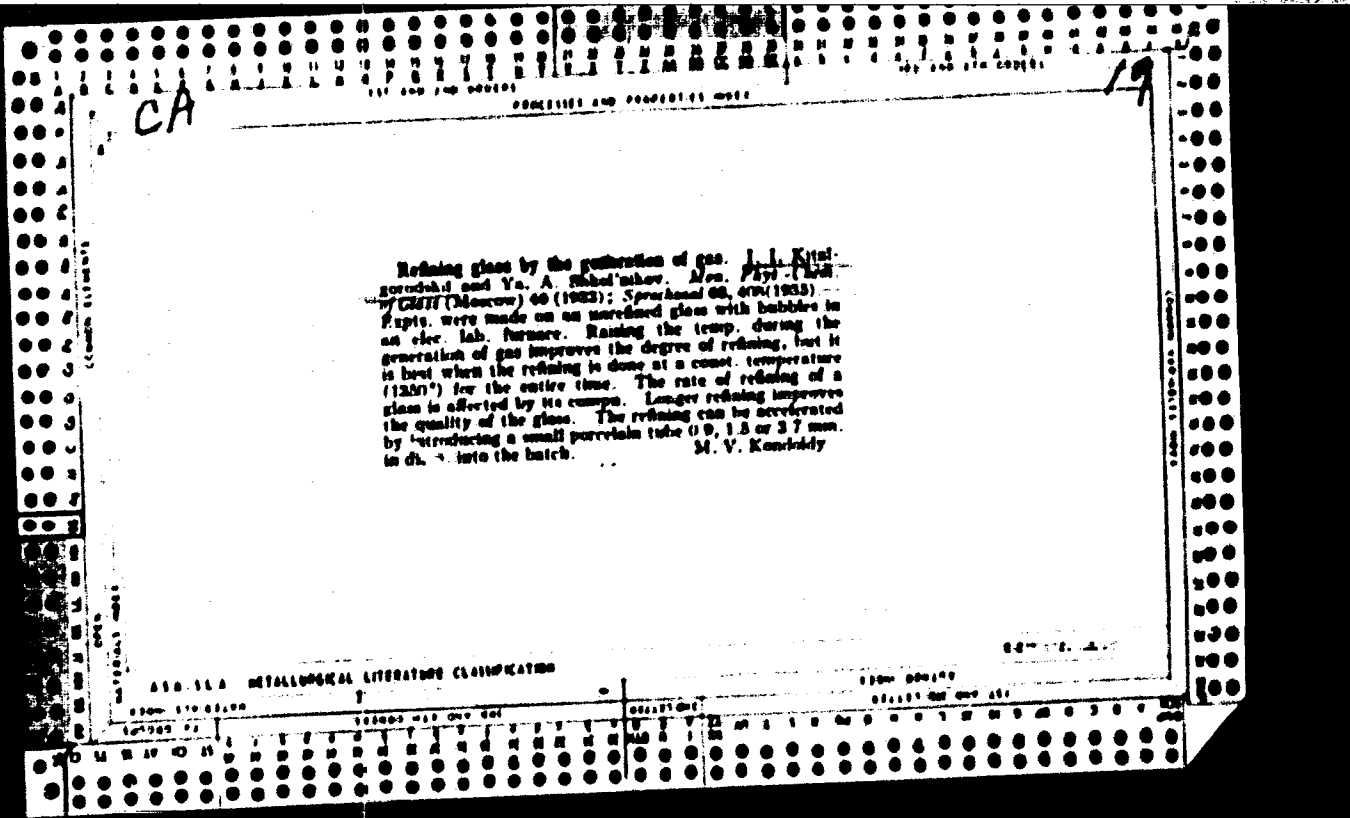
ASO 51.6 METALLURGICAL LITERATURE CLASSIFICATION

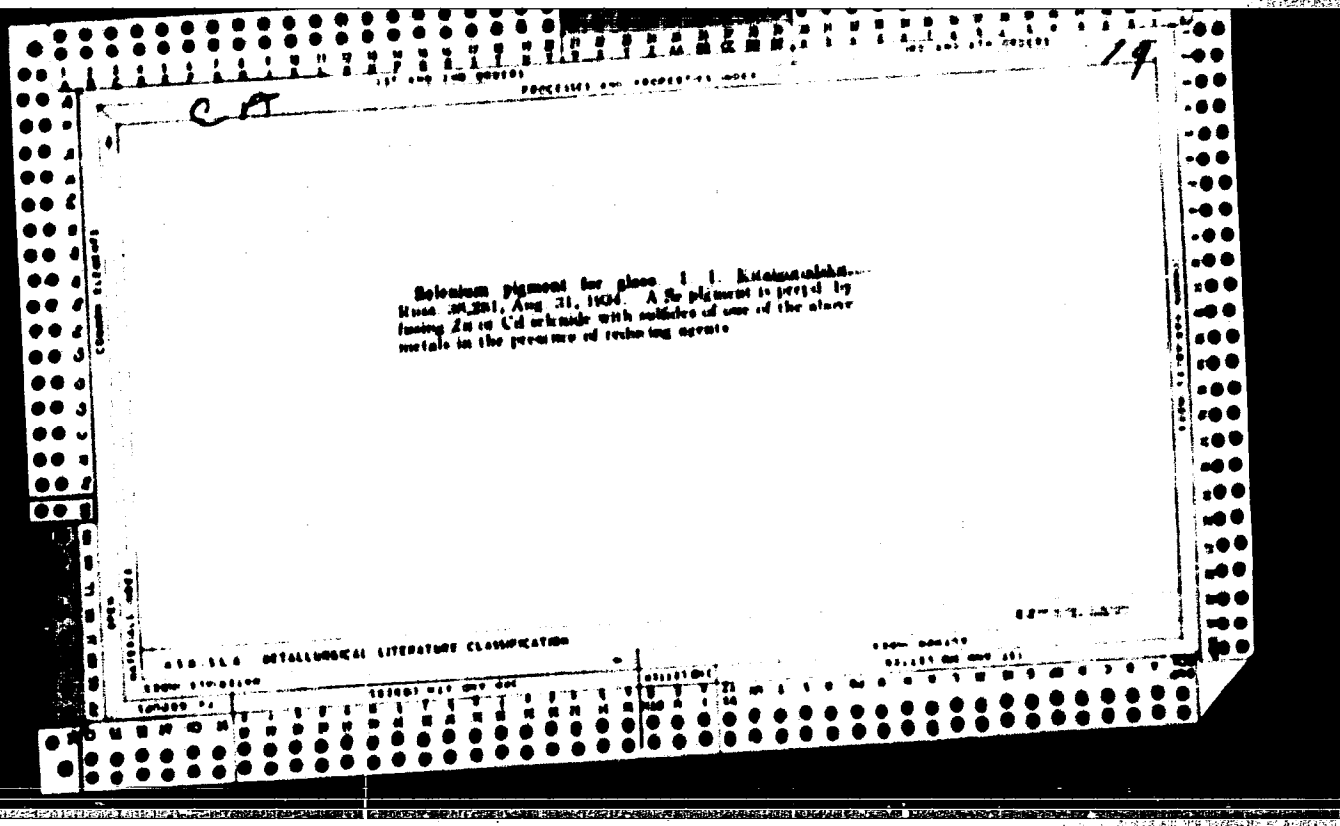


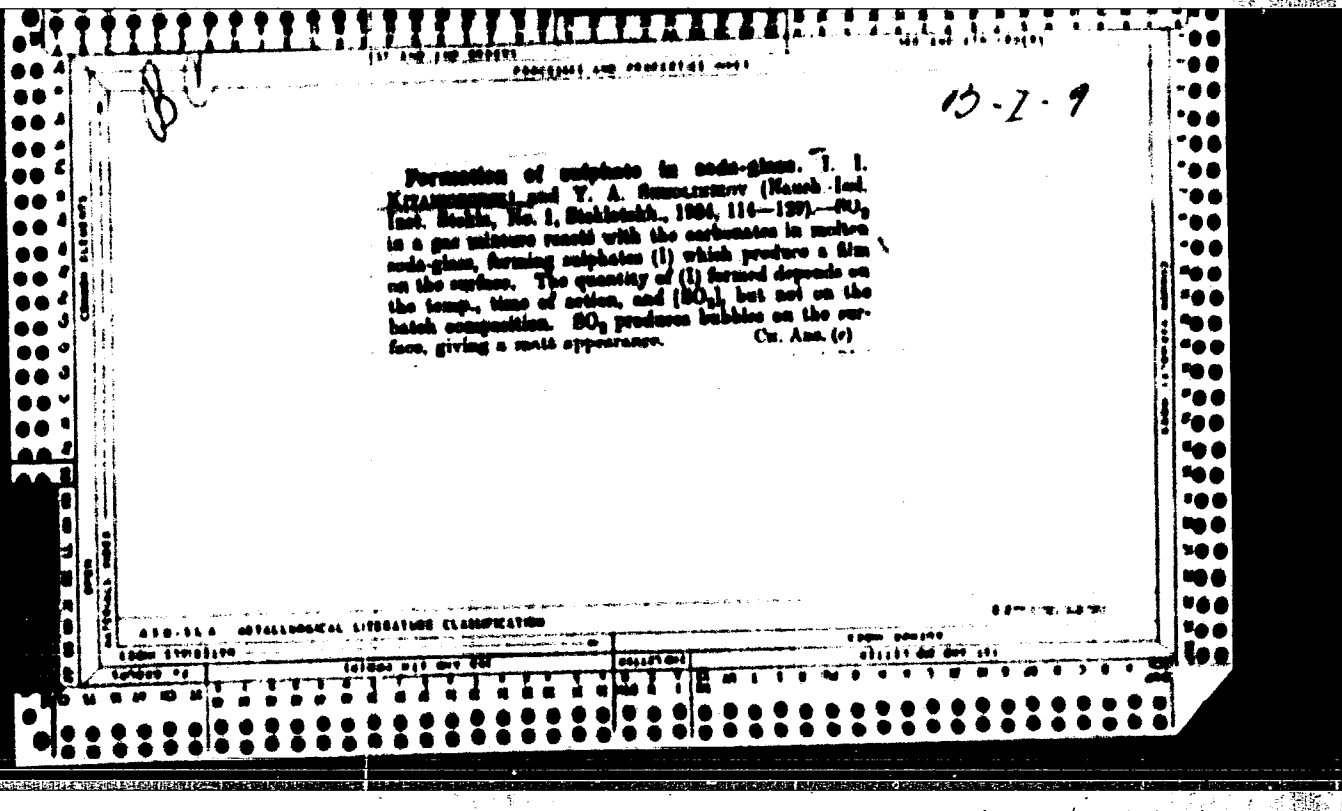


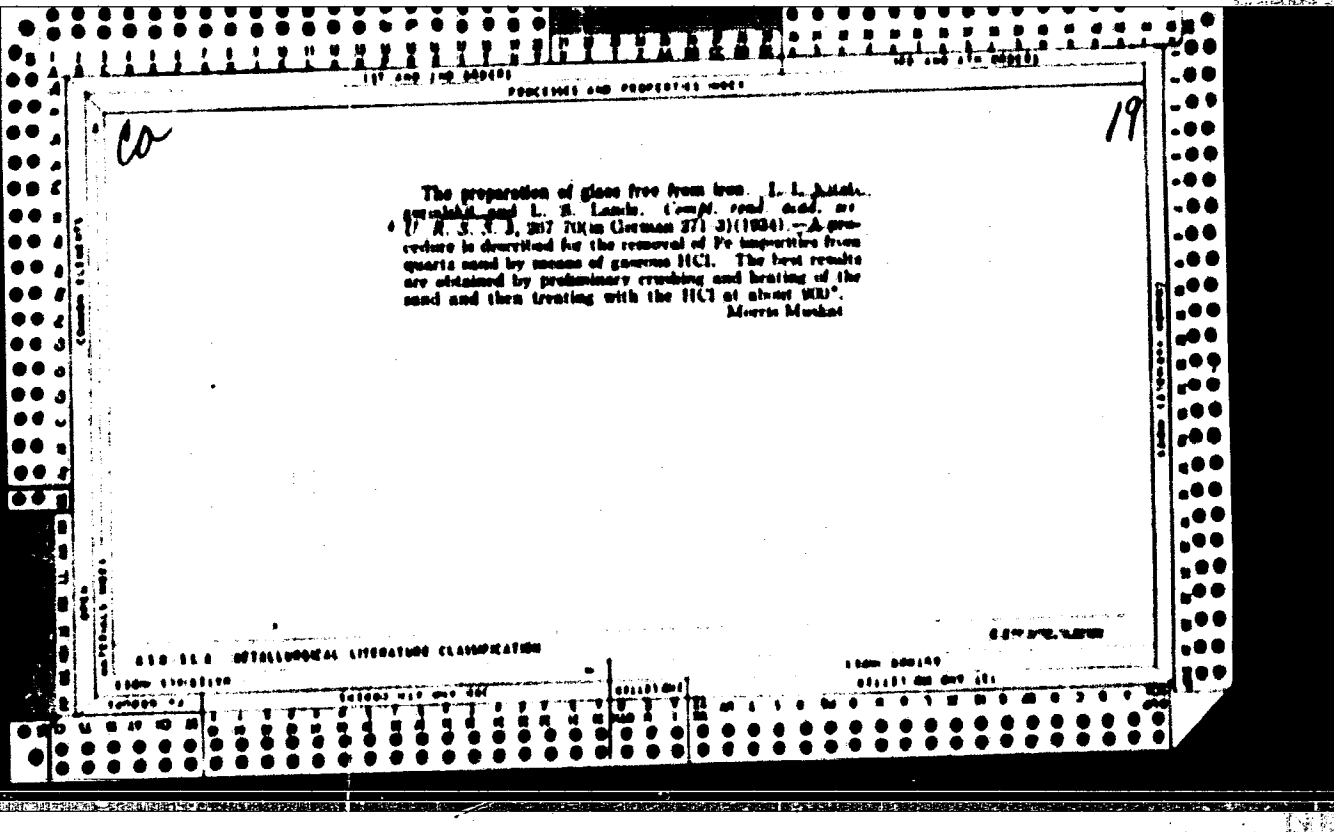






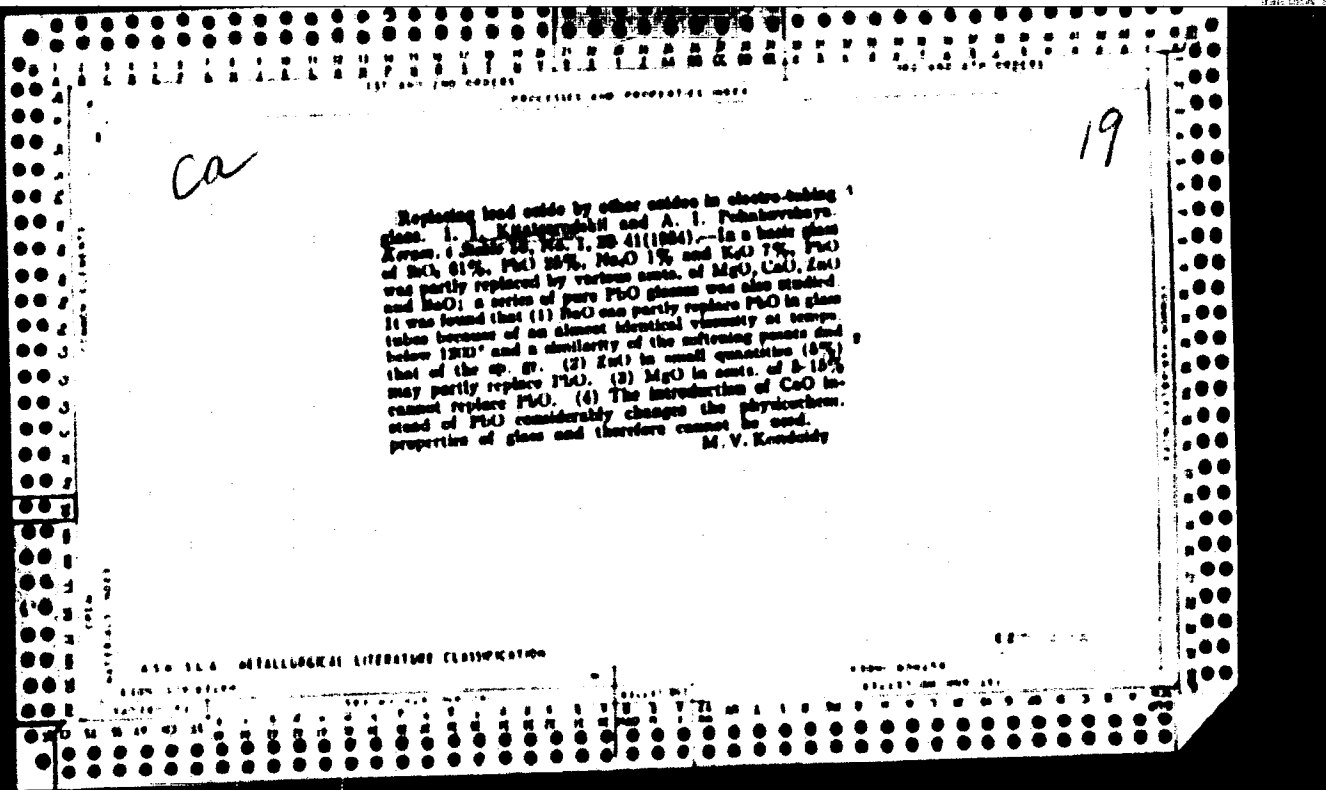






KITAIGORODSKII, I. I.

Kitaigorodskii, I. I. DUST-LIKE SILICA OF MAGNETSK. *Arzam. i Sverdlsk. 10, 31 (1934)*—The Magnetorsk  $\text{SiO}_2$  is a fine powder consisting of quartz grains 0.005 to 0.05 mm. size; the sand contains a great number of needle like prismatic crystals. The chemical analysis is: 91.62  $\text{SiO}_2$ , 3.9  $\text{Al}_2\text{O}_3$ , 0.17  $\text{Fe}_2\text{O}_3$ , 0.35  $\text{MgO}$ , 0.15%  $\text{CaO}$ . Paper experiments showed that samples containing 0.1%  $\text{Fe}_2\text{O}_3$  before concentration contained only 0.001  $\text{Fe}_2\text{O}_3$  after concentration. Some samples contain only traces of Fe oxides. Glass of high quality was produced.





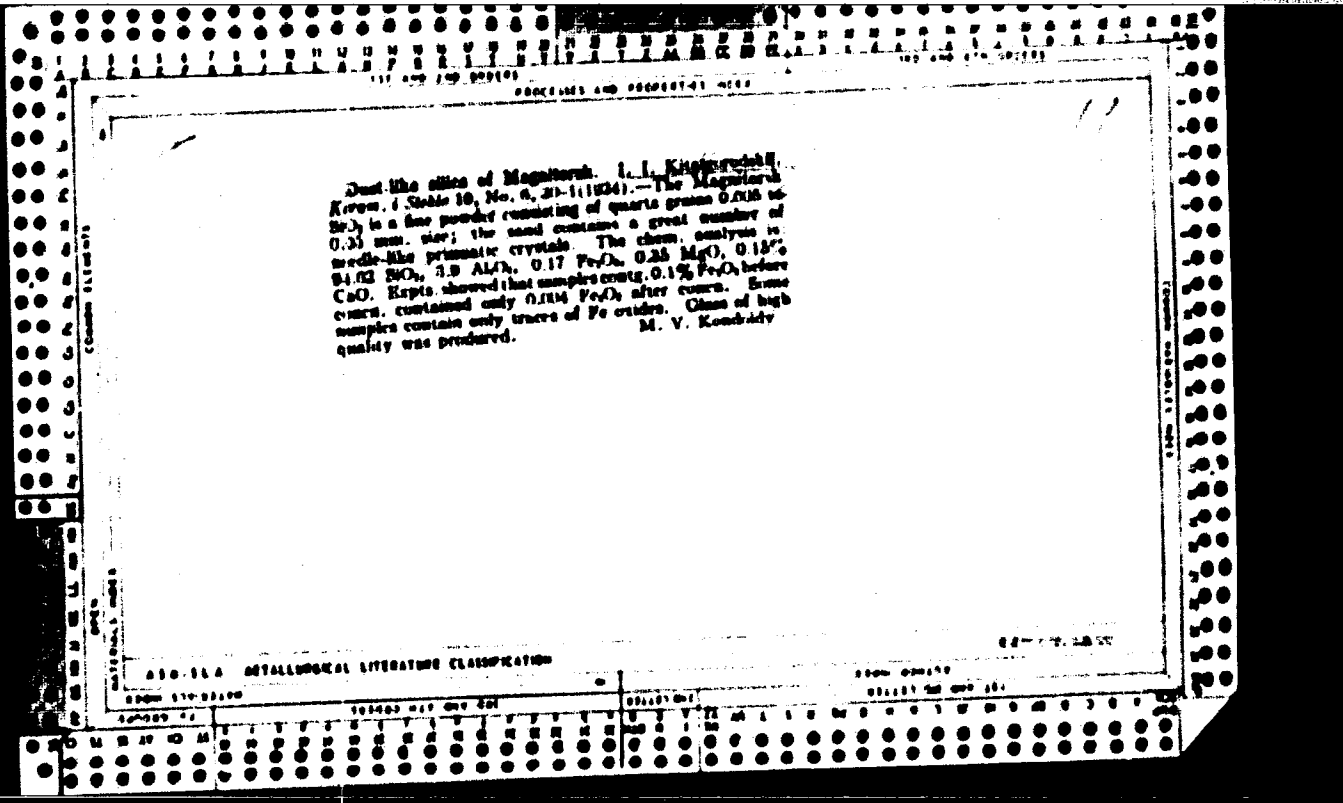
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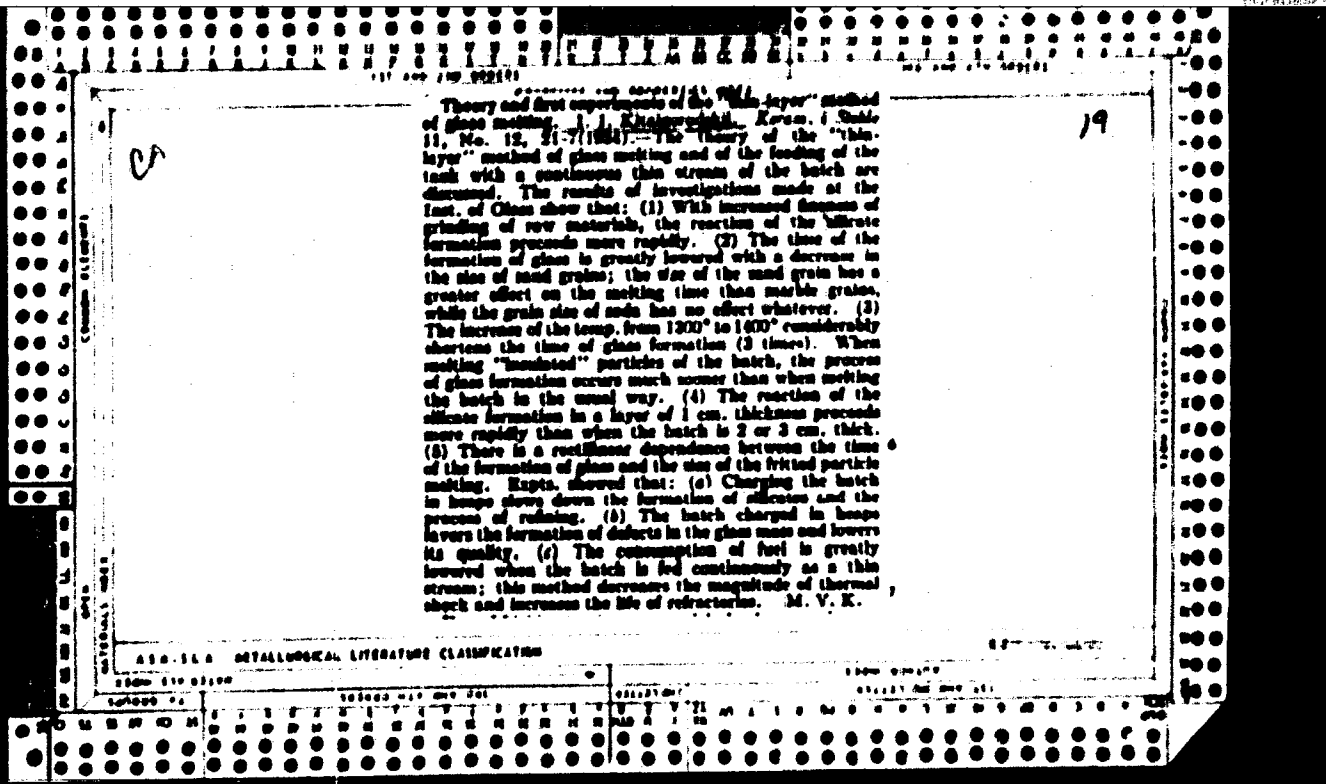
Theory and practice of the production of selenium reds. I. I. Kifagurnichii. *Arcom. i. Stalk 10, No. 5, 9 (1931)*. (1) All red Fe glasses are divided into 2 groups: (a) stable and (b) unstable glasses. (Glasses of the first group do not change their color during reheating, annealing or thermal treatment. Glasses of the second group change their color during all the mentioned stages, changing from yellow to red and further to canary. (2) Glasses (a) are colored by stable Fe compounds; glasses (b) are colored by a colloidal pigment (Fe). (3) Stable red glasses are obtained only when a solid soln. of Cd selenide and oxide is used as a pigment, the color tone

of the glass depends on the proportion of Cd selenide to that of Cd oxide in the solid soln. Tests showed that the instability of color is due to the fact that Cd selenide and Cd oxide have not had time to produce a solid soln., and because of an immediately reducing atmosphere a part of it oxidizes, forming various unstable Fe compounds. The lower conditions for obtaining a stable color lie in the pigment, method of its prepn. and conditions of melting. (4) of special importance are the prepn. of the batch and the pressure of a reducer when coloring glasses colloidal with free Fe. The conditions of melting, temp. and atm. are important also. The introduction of electrolytes considerably affects the colloidal coloring of the glass with free Fe; however, the cost of electrolyte and its nature. (5) When metallic Fe was introduced into the glass mass under certain conditions (mixing it with Cd oxide in the presence of Zn oxide and a reducer), the coloring of the glass was similar to that when the pigment is introduced in the form of a solid soln. It is difficult to obtain glasses (a), e. g., stable, with regard to color, when using metallic Fe if the conditions of melting are not carefully observed. (6) When mg. hollow ware and crystal glass, Fe glasses which obtain their color after the thermal treatment are to be preferred for obtaining the whole scale of color tones. (7) Red Fe-oxide-Ca-alkali glasses were produced. The results of ultra-microscopic investigations of various samples of Fe glasses are dealt with. It is not possible to reject the theory of colloidal coloring of Fe glasses.

M. V. Korshakov

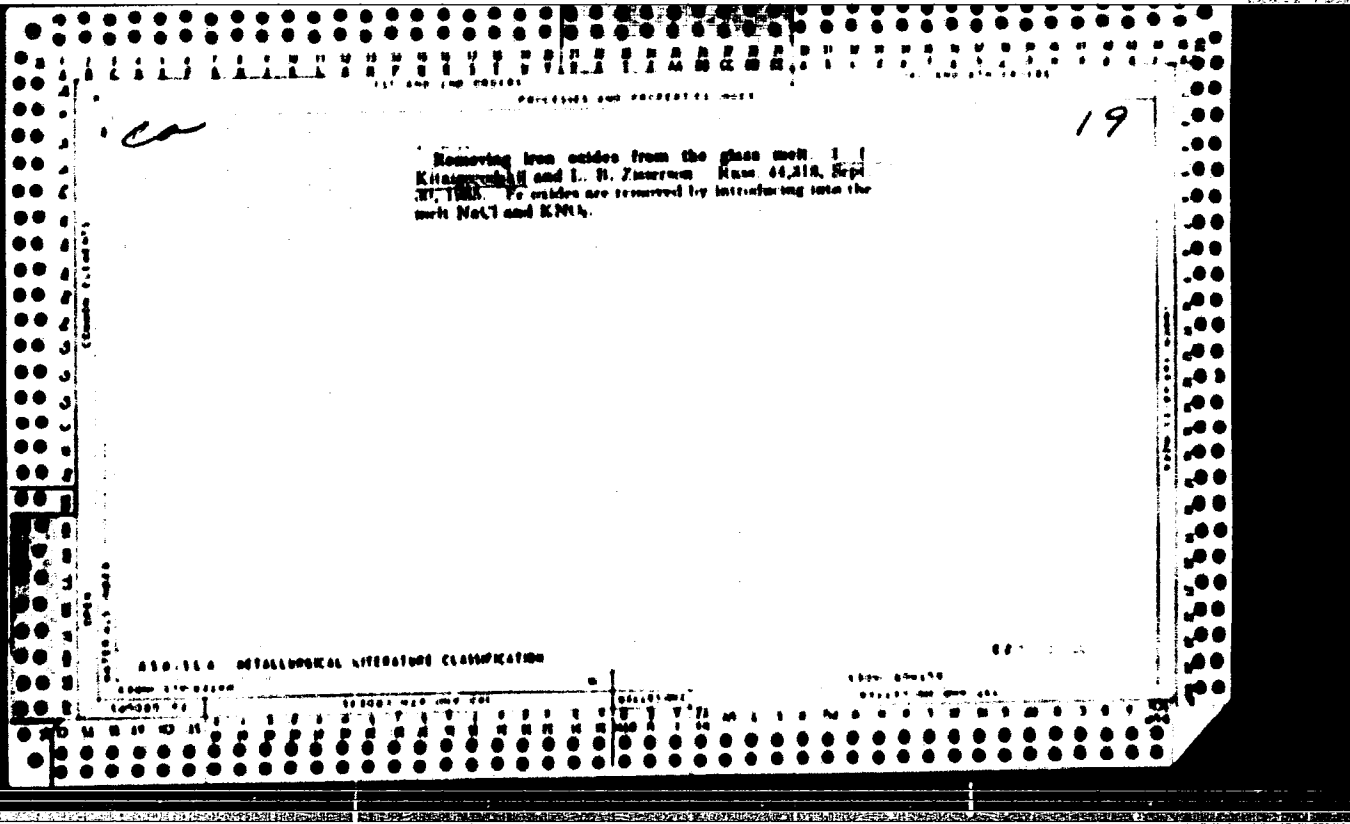
110 110 METALLURGICAL LITERATURE CLASSIFICATION

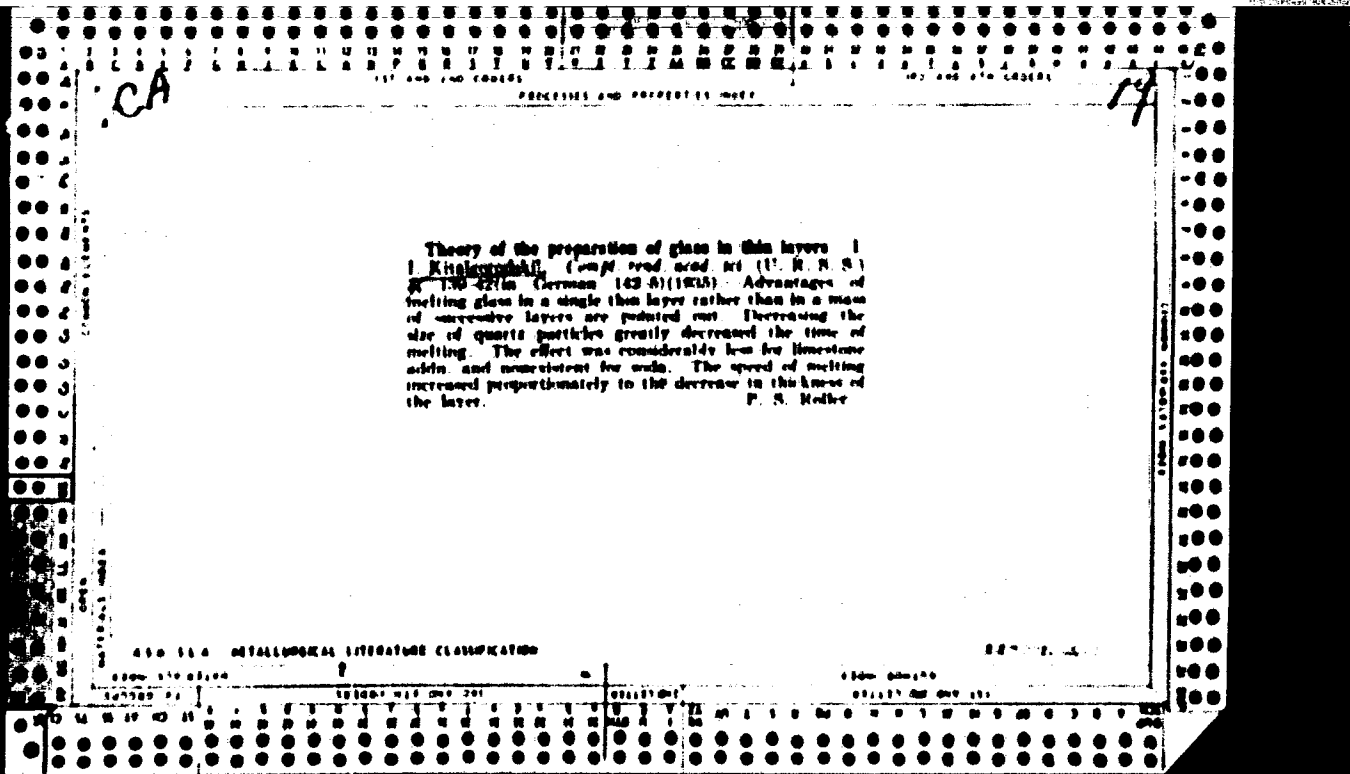


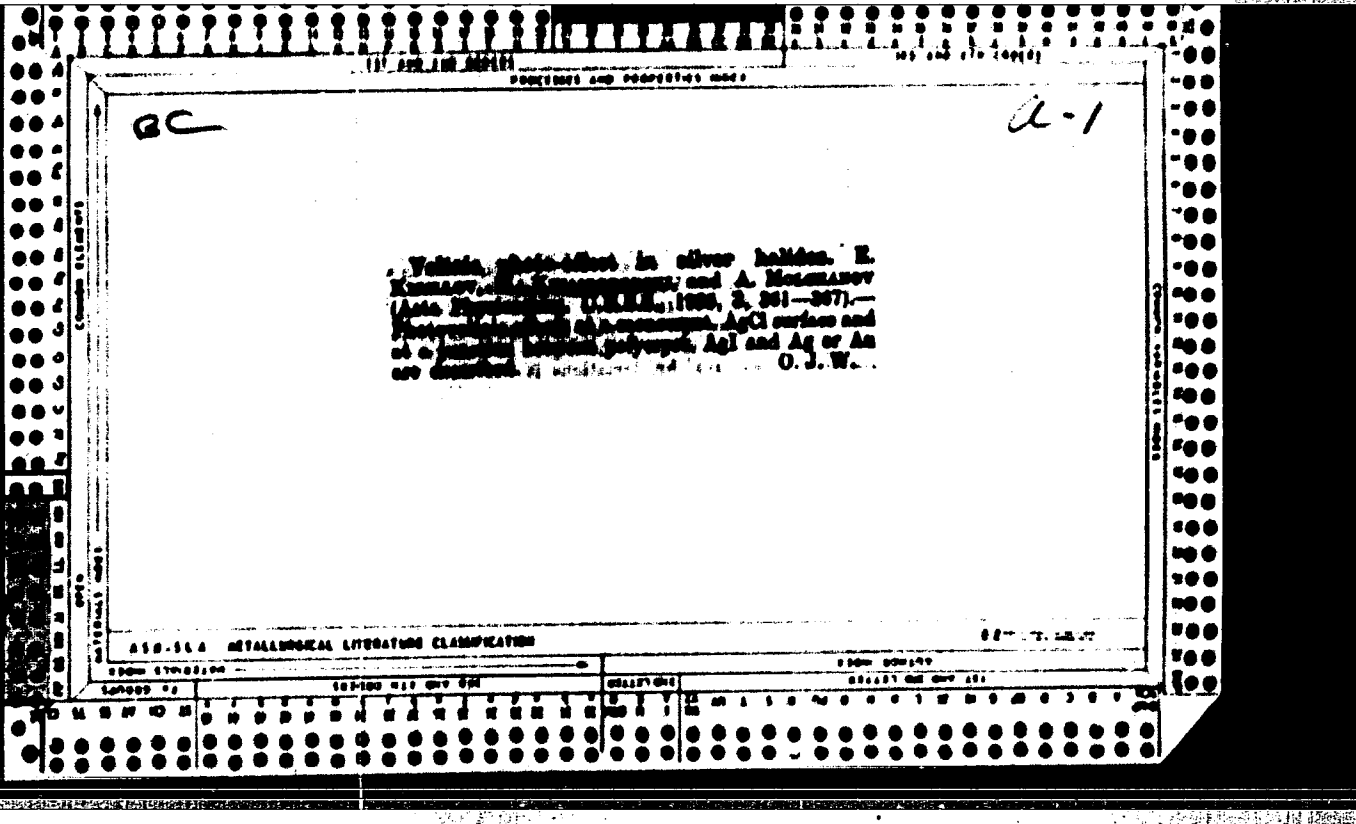


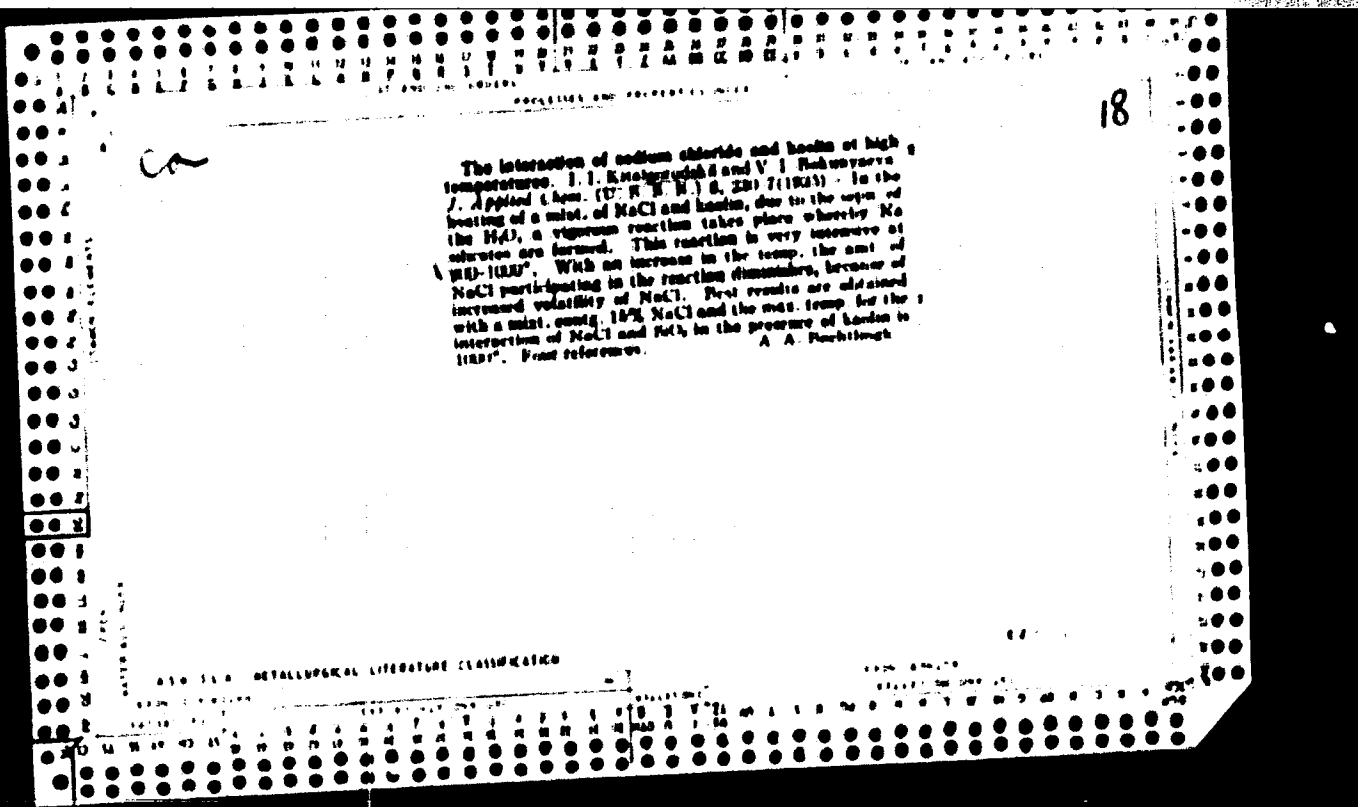
KITAYGORODSKIY, I. I.

"Theory of Glass Formation and Methods of Making Glass," Moscow-Leningrad, 1935

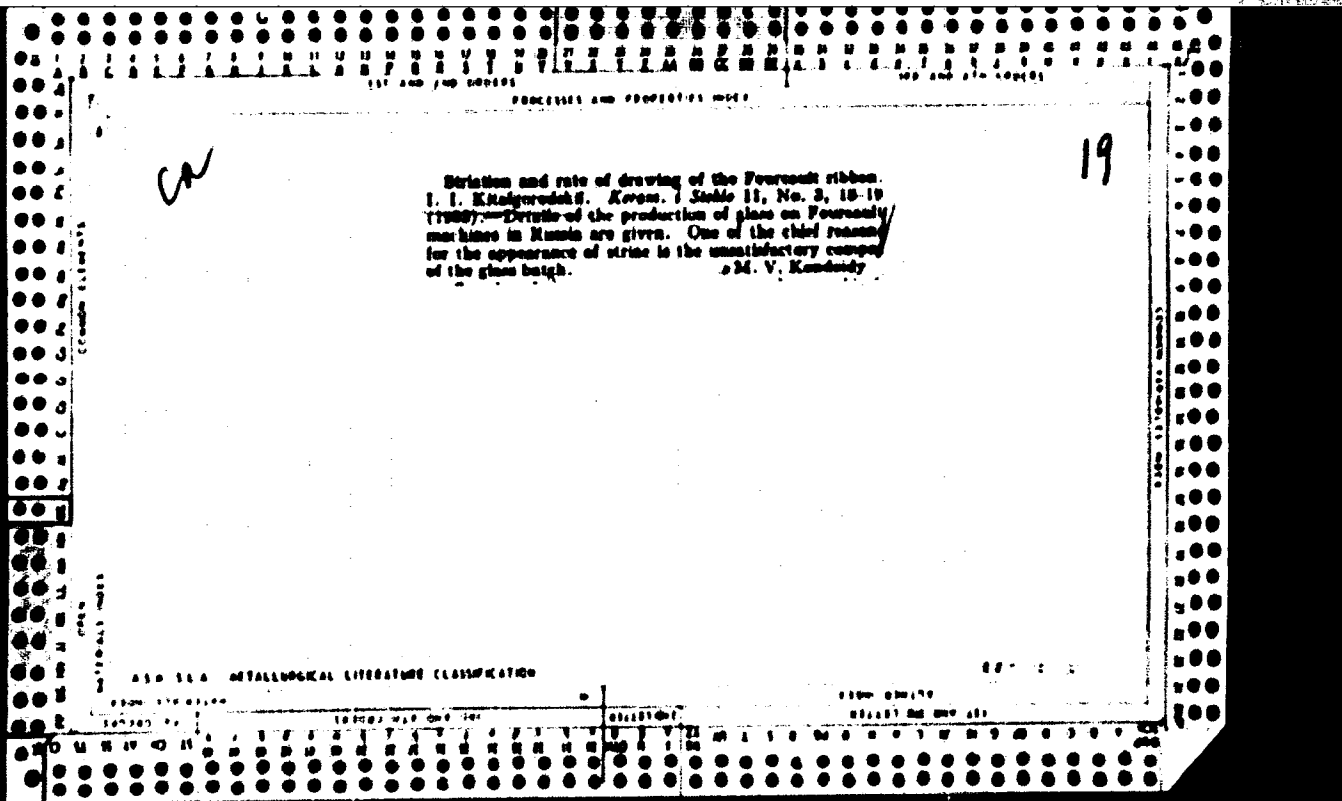


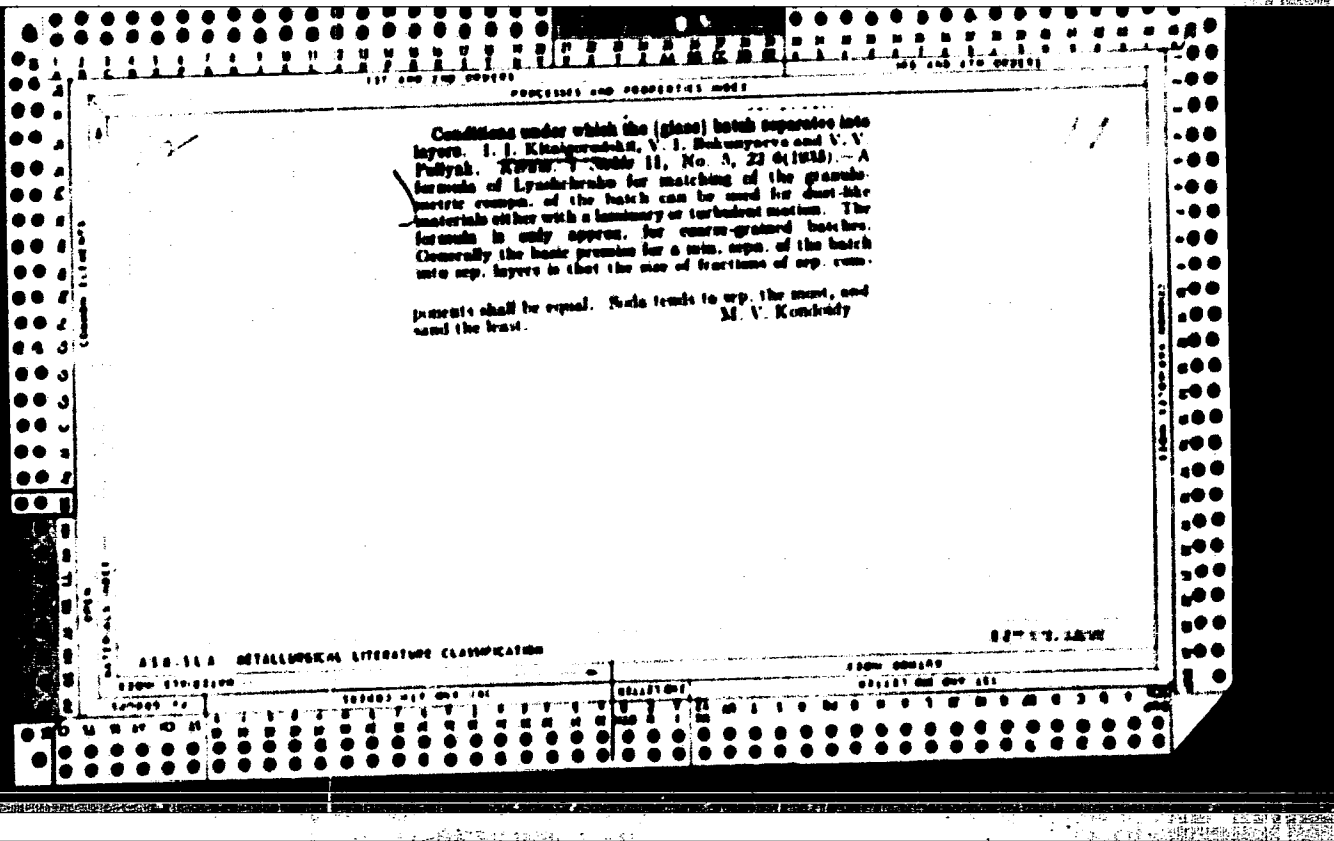








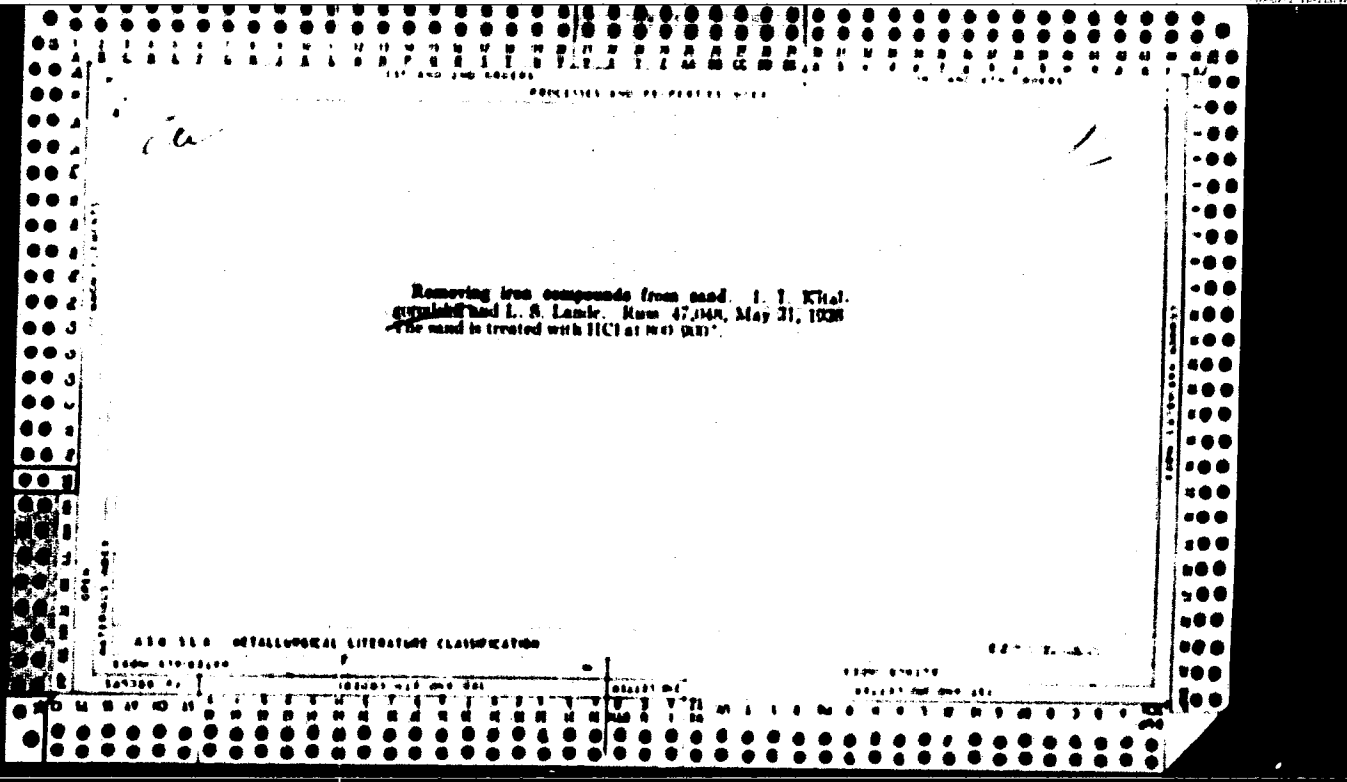


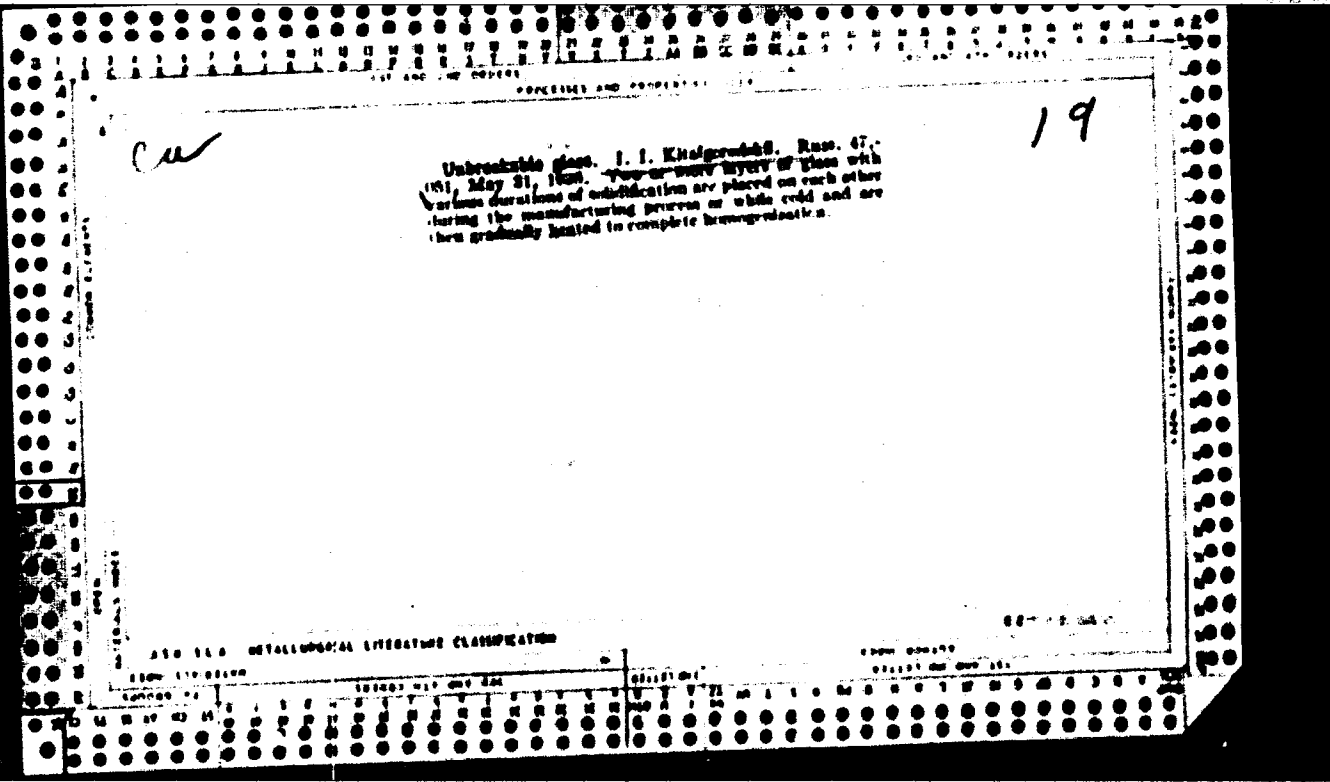


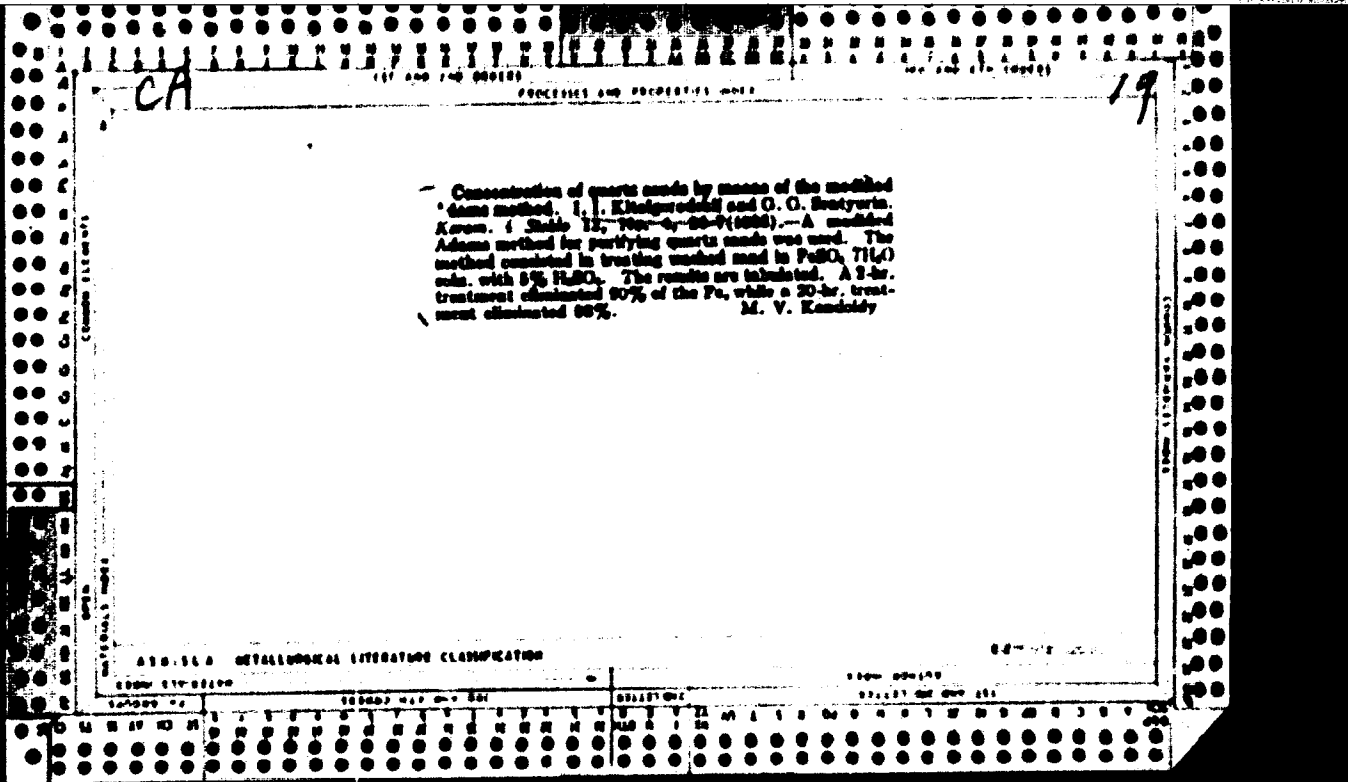
THEORY AND PRACTICE OF ACCELERATED DRAWING OF GLASS BY THE FOUCAULT METHOD

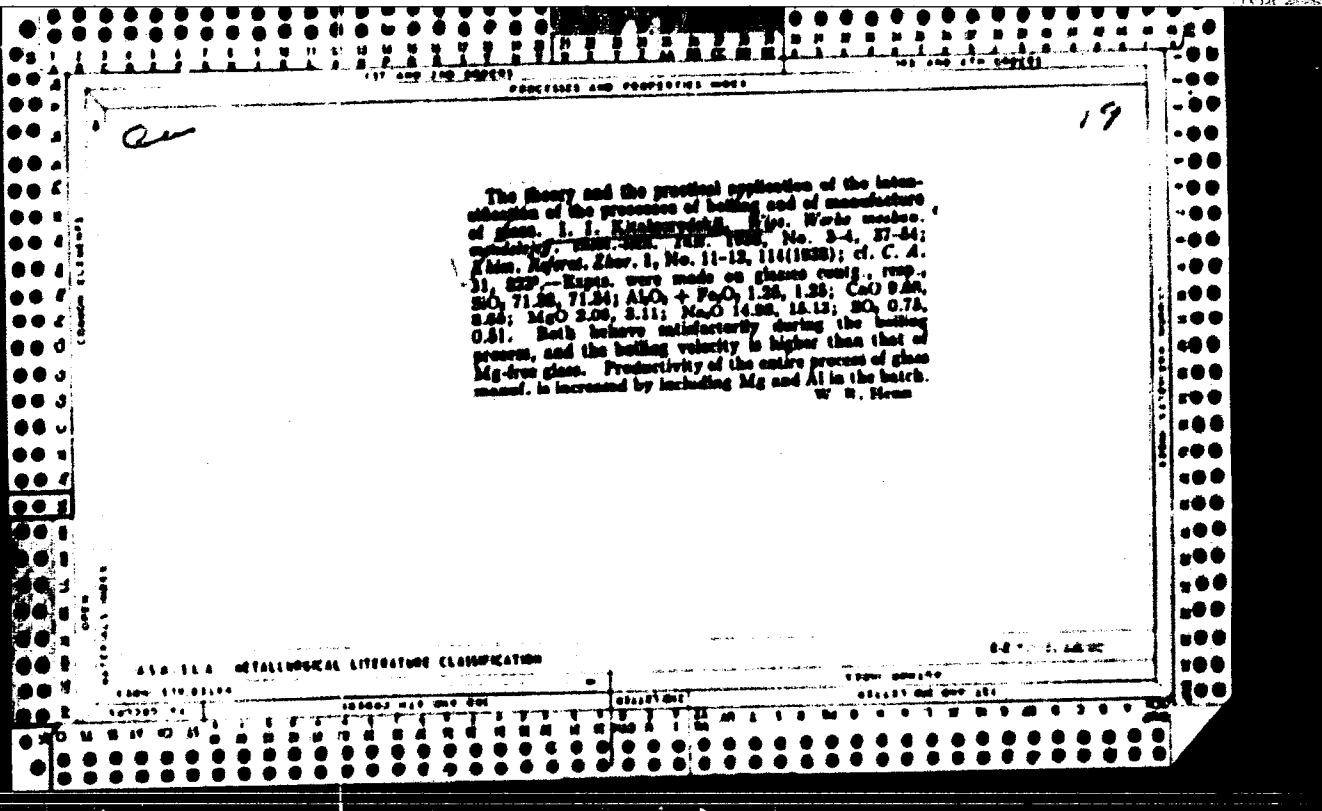
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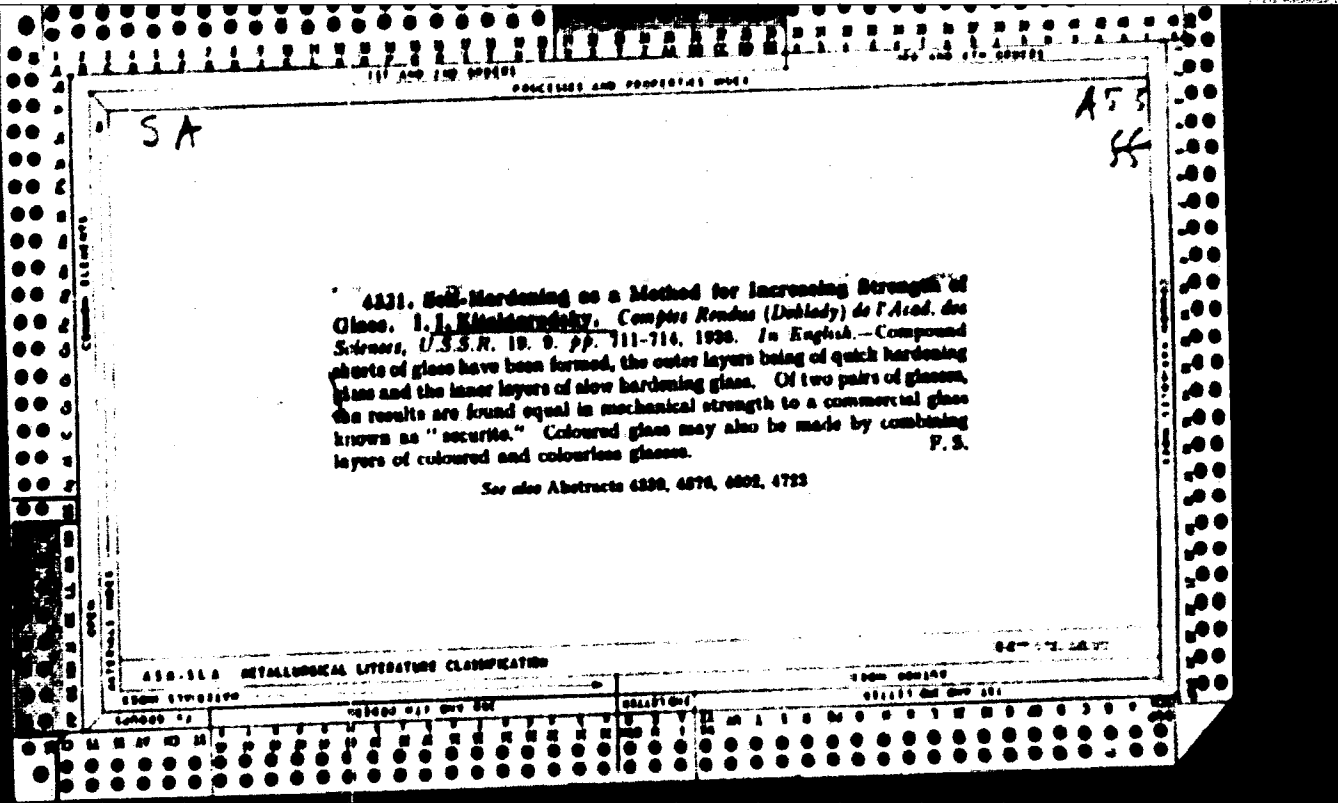
Theory and practice of accelerated drawing of glass by the Foucault method. I. I. Kitagorodskii. *Amer. J. Sci. Ser. B*, No. 7, 3 (1945). The chief defects of the Foucault glass produced in the U. S. S. R. are its low chem. resistance, great strain, and the presence of various inclusions, such as stones, cryst. formations and inclusions, these defects are due chiefly to an incorrect regimen of the glass. The latest investigations in Europe and the U. S. dealing with the regimen, melting, reducing and ending of glass are discussed, and the results of studies made by the Russian Inst. of Glass analyzed. Conclusions: (1) A reverse graded batch melts much more slowly than a fine-grained batch; (2) starting the melting of such a batch, the process of glass formation occurs very rapidly. (Structural details to improve Foucault machines are discussed.) M. V. Koshchik



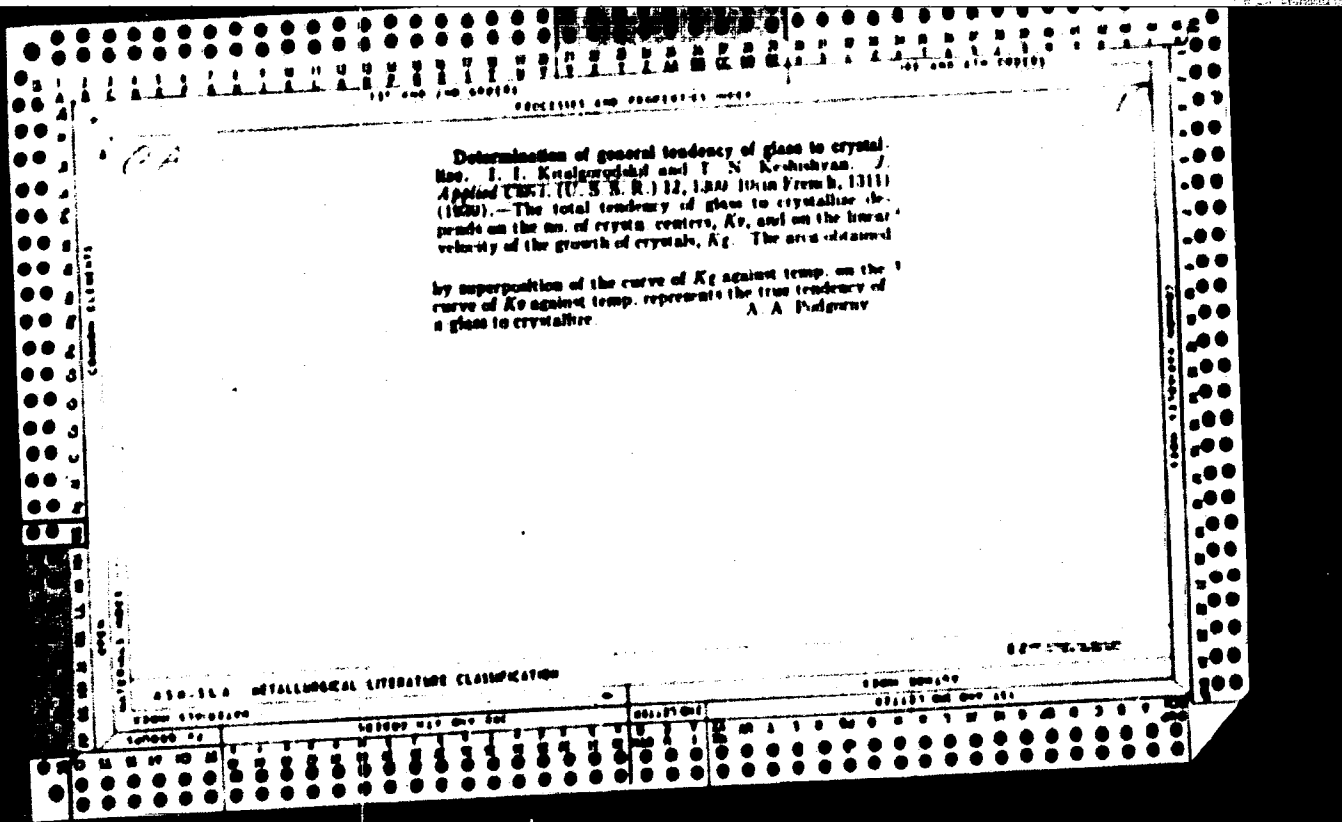


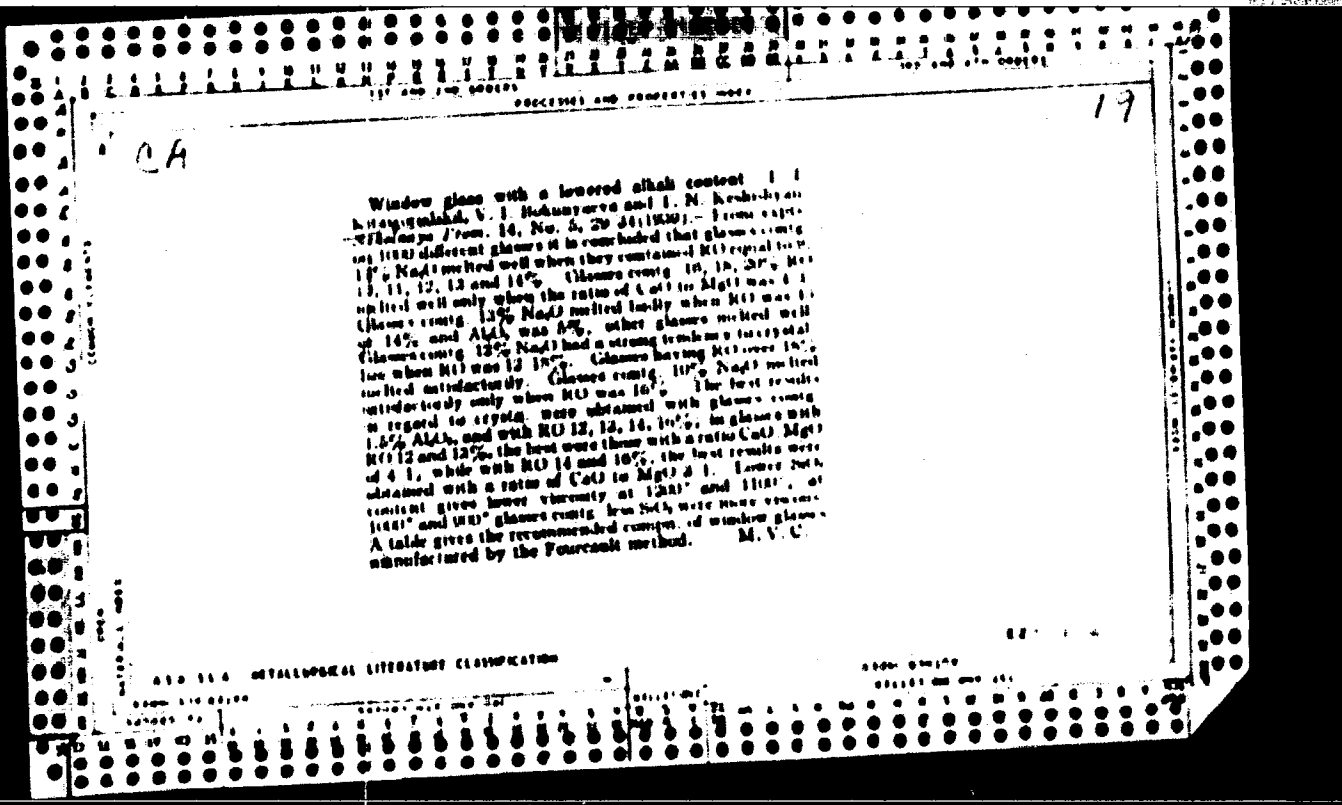












RESEARCH AND PROPERTY INDEX

CA 19

Rate of physical in the glass industry. I. I. Kitagurov.  
 Zh.S. *Lisovski* No. 21, 220-41 (1950).--K. discussed  
 the various types of modern glasses produced in the  
 U. S. S. R. Cf. Sullivan, *J. Applied Phys.* 8, 122 (1937);  
 P. H. Rathmann

ASD 55.4 METALLURGICAL LITERATURE CLASSIFICATION

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50

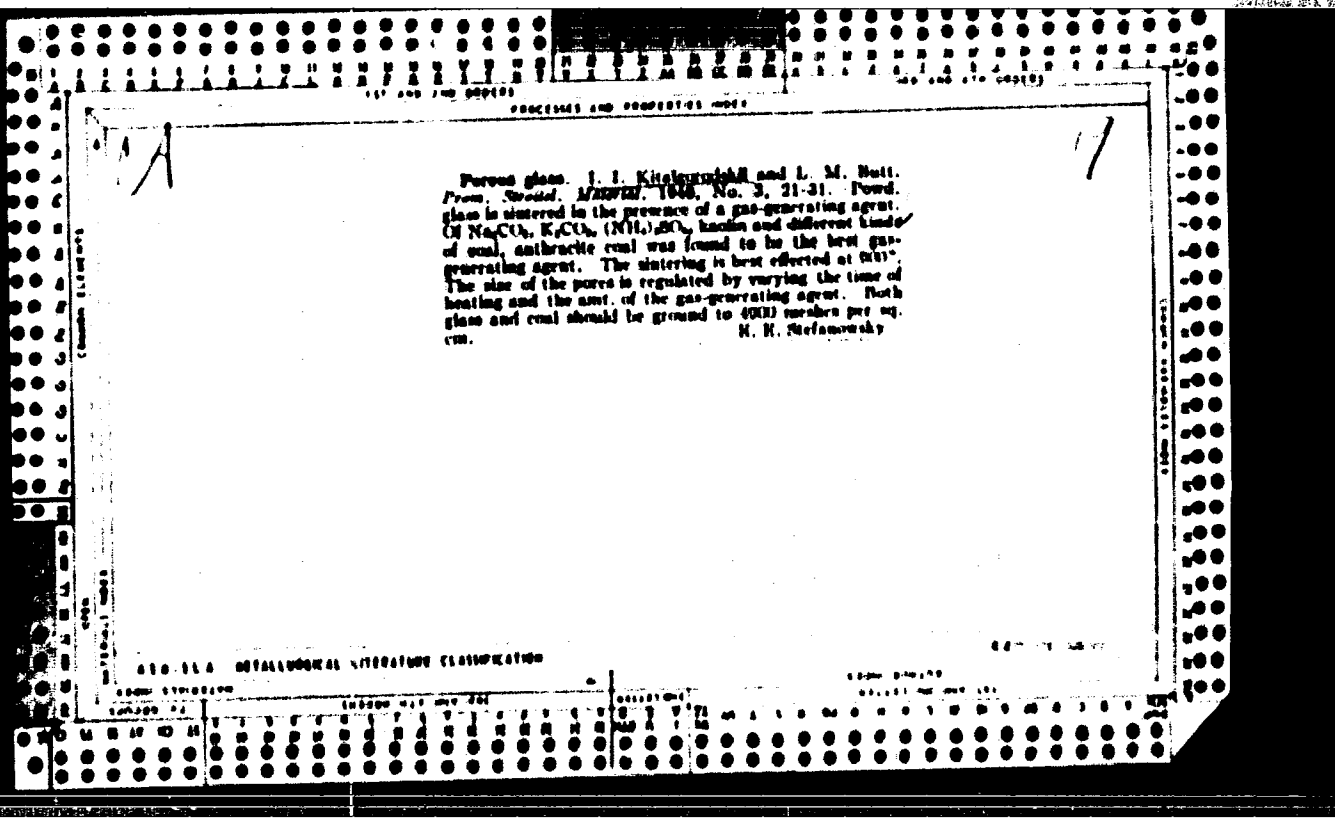
KITAIGORODSKII, I. I.

Kitaigorodskii, I.I., and Keshishvan, T.M. CALCINED MULLITE REFRACTORY  
Compt.rend.acad. sci. U.R.S.S. 23, 152-54 (1939)- A mixture of  $Al_2O_3$  72,  
 $SiO_2$  25, and pure MgO 3% was calcined at  $1500^\circ$  for 6 hrs and then at  $1700^\circ$   
for 30 min. The product was a highly resistant refractory, negligibly  
attacked by molten glass at  $1300^\circ$

A.C.S.

Case

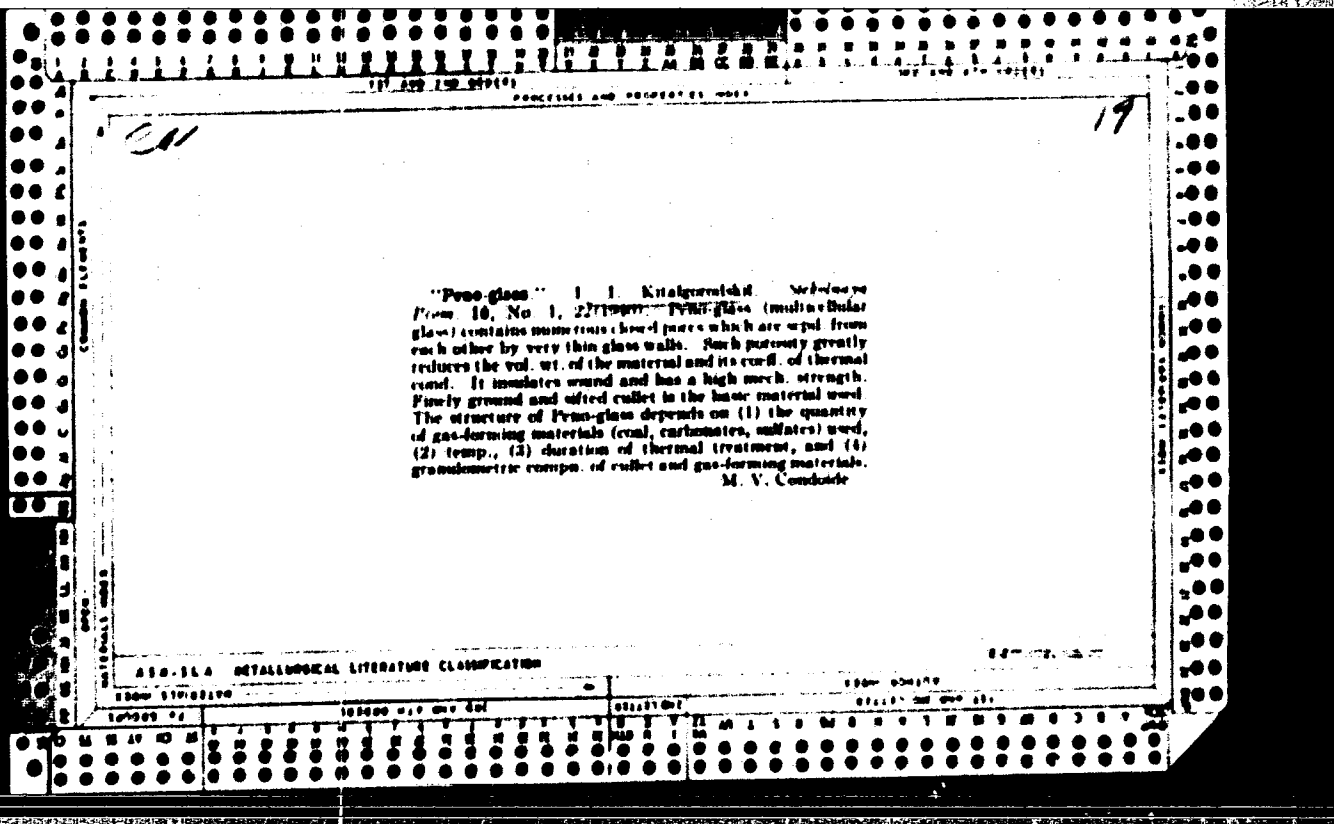
Automatically annealed glass sheet. I. J. Kiralman,  
and also H. V. Sauer. *Trans. Am. Soc. Glass Technol.*, April 24, 1940,  
224-230. The glass sheet is made of three or more layers  
of glass having different coefficients of expansion. These  
layers are either drawn simultaneously from the melt or  
superimposed one upon the other. In the latter case, this  
is done at a temperature at which the respective layers are  
soft.  
M. No.



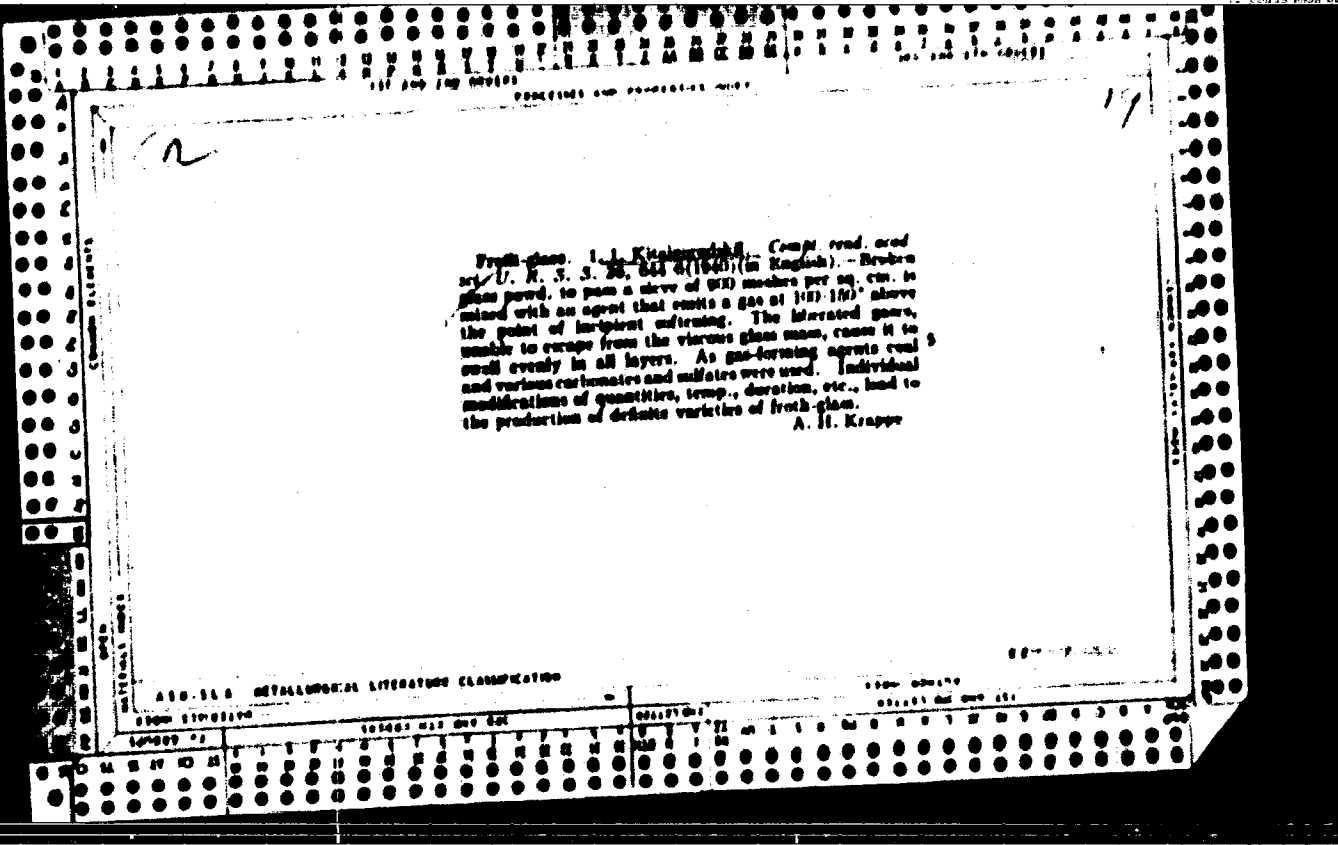
A.C.S

20/1/51

Opacifiable (frothed) glass as a building and heat- and sound-insulating material. I. I. Kuznetsov. *Trudy Mosk. Khim.-Tehn. Inst. Nizhnyaya, 1946, No. 2, pp. 31-32; Khim. Referat. Zhur., 6 [7-8] 94 (1941).*—K. de-  
 scribes the principles underlying the production of frothed  
 glass as worked out by him and L. M. Datt, T. N. Kozh-  
 ishyan, V. I. Babayeva, and V. P. Sarovarov. Frothed  
 glass is prepared by heat-treating a mixture of glass-  
 like powder and a gas-producing substance. The tem-  
 perature is 120° to 200° higher than that at which the  
 glasslike powder softens. The structure of the frothed  
 glass depends on the relation between the gas-forming  
 substance and the glasslike powder as well as on the condi-  
 tions of the thermal treatment. Various kinds of frothed  
 glass are described. See Frothing. *Chem. Abstr.*  
 35(11) 14 (1941) M 164







A.C.S.

Glass 2

Facilitating the melting and plaining of Pyrex-type glass.  
 I. J. Kivalanens, I. O. Sauranen, M. L. Kivimäki, and T. D. Tyni. *Annals of the Finnish Academy of Science and Letters*, 1944, No. 172, pp 9-18. This investigation dealt with the determination of the most suitable plaining agent and with the effect of size distribution of the batch on the rate of melting. Along with the tested composition, a sample of composition used currently at the plant was run. This sample acted as a control sample. The investigated samples were melted in fire-clay crucibles within a borewood fired furnace. After the charge melted, the furnace was shut off and the furnace window simultaneously opened. Within 30 min. the temperature of the melt dropped to 600° to 700°; the window was then shut, and the samples were kept in the furnace until the next day. The crucibles were broken, and the glass was divided into two equal parts. On these, the presence and relative quantities of bubbles and striae were determined. Of the tested plaining agents,  $W_2O_3$ ,  $MoO_3$ ,  $Na_2SO_4$ ,  $NH_4NO_3$ , and  $NH_4Cl$  had no effect whatever. Mixes containing these ingredients did not differ from those to which no plaining agents were added.  $H_2SiF_6$  and  $NH_4NO_3$  resulted in samples inferior to those containing no plaining agents. The worst results were obtained with the composition currently used at the plant, containing  $Na_2SiF_6$ ,  $Na_2SO_4$ ,  $NaCl$ , and  $As_2O_3$ . Best results occurred with mixes in which was included  $As_2O_3$  or  $NaCl$ . Of these,  $As_2O_3$  is preferable.  $NaCl$  caused slight yellowing.  $NaF$  did induce some plaining, but not so much as did  $As_2O_3$  or  $NaCl$ . Experiments were then carried out to determine the optimum quantity of the plaining agent to be used, in what combinations, if any, and where it should be added—to the mix or the melt. The optimum quantity of  $As_2O_3$  was

found to be 0.5% of the batch. Increasing this quantity to 1 or 1.5% did not produce material results. The optimum quantity of  $NaCl$  was 0.5%. Increasing this quantity worsened the results. Various combinations of these three agents yielded worse results than when they were used alone. The preferred procedure is to add the entire quantity of the plaining agent to the dry mix. Extensive experiments on the effect of size distribution in a batch showed that the smaller the grain size of the sand and the feldspar, the faster the batch melts. This is particularly pronounced when no plaining agents are used. If 0.5% of  $As_2O_3$  or  $NaCl$  is added to the batch, the size does not make a great deal of difference; that, when either of these compounds is incorporated in the mix, the particle size of the sand and the feldspar may correspond to a size distribution through 1000 meshes per  $cm^2$ , i.e., a particle smaller than 0.15 mm. When all of the sand is below 600 mesh, the glass is colored (greenish yellow to brown). Another series of experiments was carried out to determine the most desirable method of introducing  $Al_2O_3$  into the batch. For this purpose feldspar, aluminum containing 91%  $Al_2O_3$ , kaolin, and Chance-Van clay were tested. The source of  $Al_2O_3$  had no effect on the quality of the glass. The best composition of a Pyrex-type glass, on the basis of these experiments, is used 78.5, soda 4.8, borax 0.65, borax acid 25.00, feldspar 3.5, and  $As_2O_3$  0.5 g. The alkali oxides are best introduced as a mixture of sand and mixer taken in a ratio of 1:1. The preferred size distribution for the sand and the aluminum material is 0.12 to 0.15-mm diameter. Such size distribution permits operation at 1450°.

M Ho

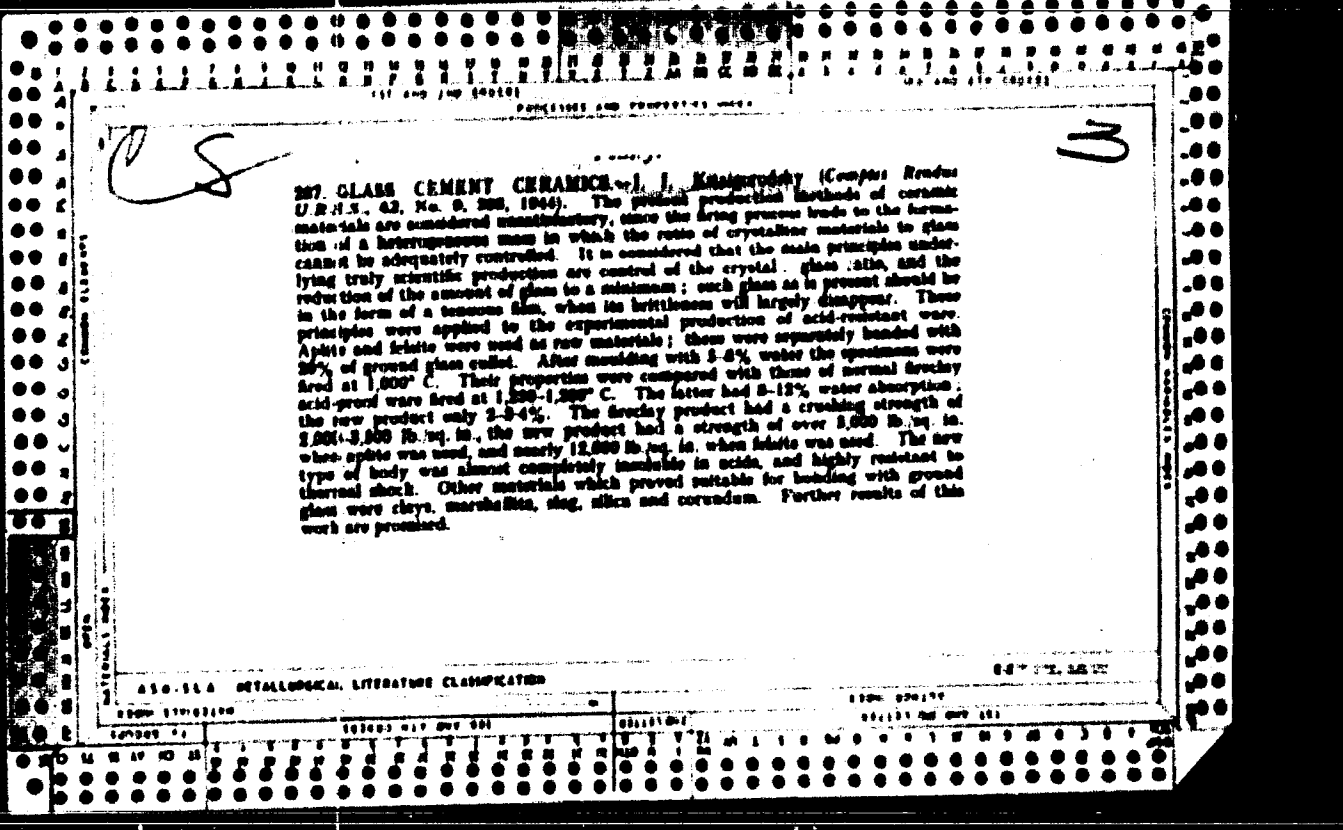
A.C.S.

U.S.S.R.

**Foam glass—**an insulating and floating material. I. I. Kizilbassanov and T. N. Kuznetsov. *Steklo i Keram. Prom.*, 1964, No. 6, pp. 4-4.—The production of foam glass was first reported by I. I. Kizilbassanov in 1942. The present work deals with the production of white and colored foam glass, the conditions of production of foam glass having closed pores and communicating pores, and the firing and cooling schedule. Foam glass produced by the Mendeleev Institute has the following characteristics: volume weight 0.18 to 0.7 gm. per cc.; true porosity 79.2 to 90%; resistance to compression 20 to 200 kg. per cm.<sup>2</sup> (in certain samples, up to 1000 kg. per cm.<sup>2</sup>); coefficient of thermal conductivity 0.1 to 0.15 kcal. per m. hr. degree; moisture absorption (foam glass with closed pores) 0 to 2%; coefficient of sound absorption at 120, 200, 300, 1000, 2000, and 4000 Hertz, 0.20, 0.40, 0.40, 0.60, 0.40, and 0.40, respectively. For making foam glass, a batch of glassy materials (powdered) containing up to 1% of a gas-forming substance is used. The batch is thoroughly mixed and placed in special molds. The molds are placed in a furnace preheated to the softening temperature of the glassy material, and the temperature is rapidly raised to 200° to 250° above the softening point. At this temperature the surface of the powder becomes coated with a fused layer that prevents the escape of gases developed within the powder, and the mass becomes inflated. The inflated mass is kept within the furnace for some time at a lower temperature; then it is slowly cooled and removed from the mold. By properly choosing the size distribution of the powdered material, the quantity and quality of the gas-forming substance, and the fusion

temperature, the properties of the foam glass can be regulated at will. Suitable raw materials are industrial glass, glassy slag, and glassy minerals. For the preparation of white foam glass, marble is used as gasifier; for dark or colored glass, coal is used. For the production of foam glass having communicating pores, the content of the gasifying substance should be at a maximum. The fusion should be prolonged at as low a temperature as possible. A batch made up of industrial glass and marble, e.g., should be fused at 700° to 720°. For the production of a foam glass with closed pores, the batch contains a minimum of gasifier and the fusion is carried out for a very short period at high temperature, e.g., 200° to 210°. The annealing for both glasses is alike and is carried out at 100°

to 120° above the softening point of the batch. Foam glass of 60-mm. thickness is annealed for 2 hr., and glass 120 mm. thick for 4.5 to 5 hr. The cooling for a 60 mm. thick product is carried out to 200° at 0.2° per min. and below 200° at 2.0° per min. For products 120 mm. thick the cooling is carried out to 200° at 0.7° per min. and below 200° at 1.2° per min. See "Osnovnye..." *Glasnost. M. No. 14*, 22 (1943).



32917  
S/030/62/000/001/008/011  
B105/B101

24.6900

AUTHORS: Dmitrachenko, V. M., Kitaygorodskiy, A. I., Kozyrev, B. M.

TITLE: Wide-range spectrometer for nuclear quadrupole resonance

PERIODICAL: Akademiya nauk SSSR. Vestnik, no. 1, 1962. 74 - 76

TEXT: Nuclear quadrupole resonance indicates slightest changes in a molecular electron cloud. The search for the unknown signal must be conducted in a wide frequency interval. For this purpose, a spectrometer for frequency ranges from 1 to 600 - 800 Mc/sec, which was designed jointly by physicists and radio engineers, had to be built. At the suggestion of the Institut elementoorganicheskikh soedineniy Akademii nauk SSSR (Institute of Elemental Organic Compounds of the Academy of Sciences USSR) and the Fiziko-tehnicheskii institut Kazanskogo filiala Akademii nauk SSSR (Physicotechnical Institute of the Kazan' Branch of the Academy of Sciences USSR), work was started in 1960 for the purpose of developing a wide-range quadrupole radiospectrometer. The instrument was built under the direction of B. N. Pavlov and D. Ya. Shtern. V. I. Robas, I. A. Safin, K. G. Semin, and E. I. Fedin were consulted. Samples of the

Card 1/2

wide-range spectrometer for...

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ЯКС-1 (YaKS-1) spectrometer were built, which permits investigations in the range from 1 to 600 Mc/sec. In the superegenerator for 90 - 400 Mc/sec and in the detector, the sample can be kept at constant temperature between -196 and +120°C. A lot of YaKS-1 spectrometers is to be built in 1962. There are 4 figures.

4

Card 2/2

KITAYGORODSKIY, Aleksandr Isaakovich; FEDIN, Erlen Il'ich; SHUSTOVA,  
I.B., red.; RAKITIN, I.T., tekhn. red.

[Atomic structure and the properties of solids] Atomnoe  
stroenie i svoistva tverdykh tel. Moskva, Izd-vo "Znanie,"  
1963. 47 p. (Narodnyi universitet kul'tury: Estestvenno-  
nauchnyi fakul'tet, no.6) (MIRA 16:9)  
(Matter--Constitution) (Solids)

AFANAS'YEV, Vitaliy Arkad'yevich; KITAYGORODSKIY, A.I., doktor  
fiziko-matem. nauk, prof., otv. red.; VOZHEYKO, I.V.,  
red. izd-va; POPOVA, M.G., tekhn. red.

[Physical methods for studying the molecular structure of  
organic compounds Fizicheskie metody issledovaniia stro-  
eniia molekul organicheskikh soedinenii. Frunze, izd-vo  
AN Kirgis.SSR, 1963. 247 p. (MIRA 16:10)  
(Organic compounds) (Molecular structure)



VAYNSHTEYN, Boris Konstantinovich; KITAYGORODSKIY, A.I., prof.,  
otv. red.; FEYGIN, L.A., red.izd-va; PRUSAKOVA, T.A.,  
tekhn. red.

[Diffraction of X-rays by chain molecules] Difraktsiia rent-  
genovykh luchei na tsepnykh molekulakh. Moskva, Izd-vo  
Akad. nauk SSSR, 1963. 371 p. (MIRA 16:7)  
(Polymers) (X-ray diffraction examination)

LANDAU, Lev Davidovich, laureat Leninskoy i Nobelevskoy premiy  
akademik; KITAYGORODSKIY, Aleksandr Isaakovich, prof.;  
VERES, L.F., red.; GRIGOROVA, V.A., red.; KRYUCHKOVA, V.N.,  
tekhn. red.

[Physics for all; motion heat] Fizika dlia vseh; dvizhenie,  
teplota. Moskva, Fizmatgiz, 1963. 390 p. (MIRA 16:11)  
(Physics)

CHICHIBABIN, Alexsey Yevgen'yevich. Prinimani uchastiye: REUTOV, O.A.; KITAYGORODSKIY, A.I., prof.; LIBERMAN, A.L., doktor khim. nauk; BAGDASAR'YAN, Kh.S., doktor khim. nauk; PLATE, N.A., kand. khim. nauk; KOLOSOV, M.N., kand. khim. nauk; BOTVINIK, M.M., doktor khim. nauk; STEPANOV, V.M., kand. khim. nauk; MEL'NIKOV, N.N., prof.; DEREVITSKAYA, V.A., doktor khim. nauk; LIBERMAN, A.L., red.; SERGEYEV, P.G. [deceased]; ROMM, R.S., red.; SHPAK, Ye.G., tekhn. red.

[Basic principles of organic chemistry] Osnovnye nachala organicheskoi khimii. Izd.7. Pod red. P.G.Sergeeva i A.L. Libermana. Moskva, Goskhimizdat. Vol.1. 1963. 910 p. (MIRA 16:10)

1. Chlen-korrespondent AN SSSR (for Reutov).  
(Chemistry, Organic)

ALEKSEYEV, N.V.; KITAYGORODSKIY, A.I.

Structure of cyclohexane. Zhur.strukt.khim. 4 no.2:163-166 Mr-Apr  
'63. (MIRA 16:5)

1. Institut elementoorganicheskikh soedineniy AN SSSR.  
(Cyclohexane) (Chemical structure)

AVOYAN, R.L.; KITAYGORODSKIY, A.I.; STRUCHKOV, Yu.T.

Crystal structure of 5,6-dichloro-11,12-diphenylnaphthalene. Zhur.  
strukt.khim. 4 no.4:633-636 J1-Ag '63. (MIRA 16:9)

1. Institut elementeorganicheskikh soyedineniy AN SSSR.  
(Naphthalene crystals)

KITAYGOLODKIY, A.I.; TSVANKIN, D.Ya.; PIRAGI, Yu.M.

Large periods in polyethylene terephthalate films. Vysokom.sped.  
5 no.7:1062-1068 JI '63. (ID 16:9)

1. Institut elementoorganicheskikh soedineniy Ak. Nauk.  
(Terephthalic acid)  
(X rays--Scattering)

KITAIGORODSKII, I. I.

1931  
Electron Microscope and Investigation of the  
Structure of Ceramic Materials. I. I. Kitagorodskii.  
U.S.S.R. Acad. Sci. Trans., 1931, Vol. 18, No. 8, pp. 563-574. In English.

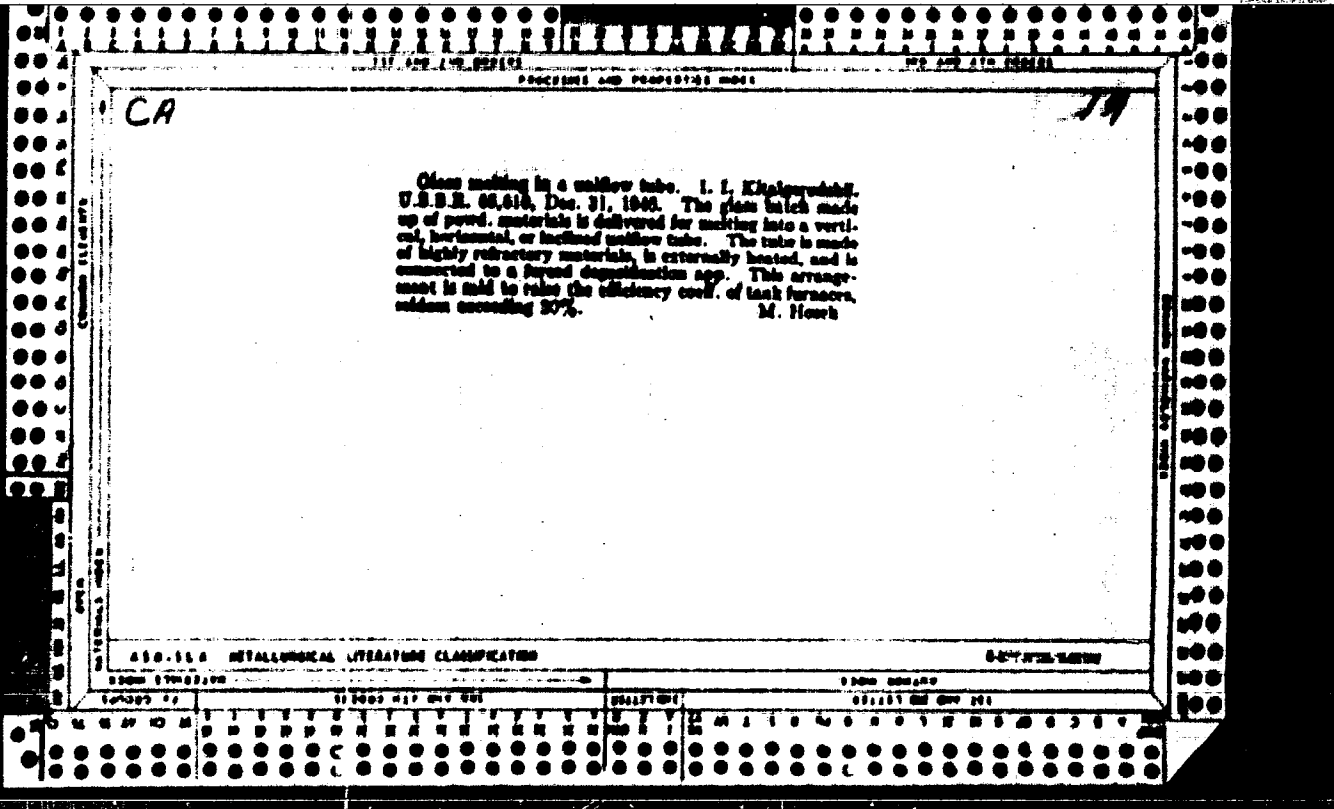
KITAYGORODSKIY, I. I.

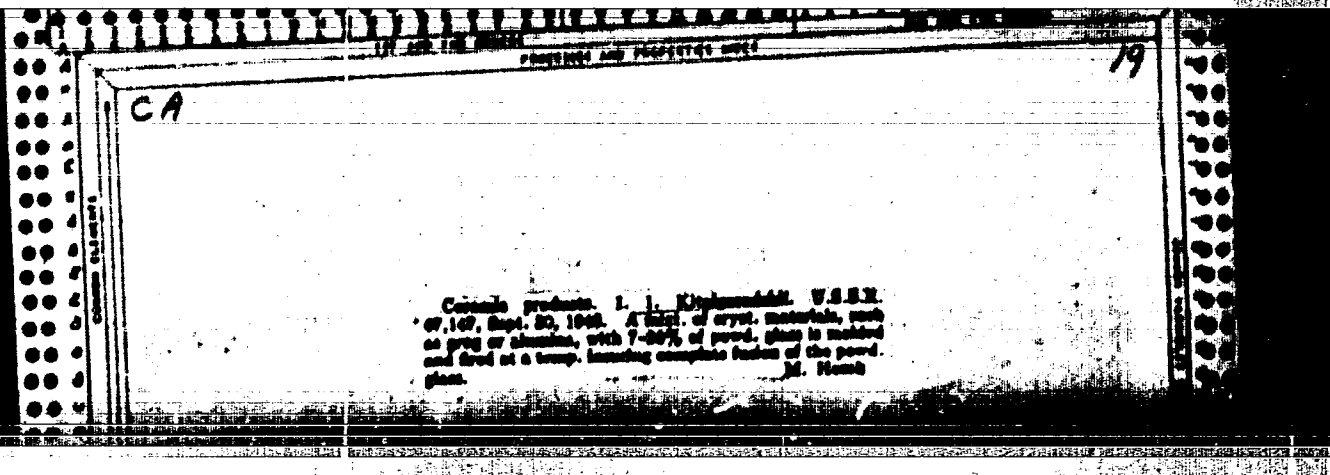
C

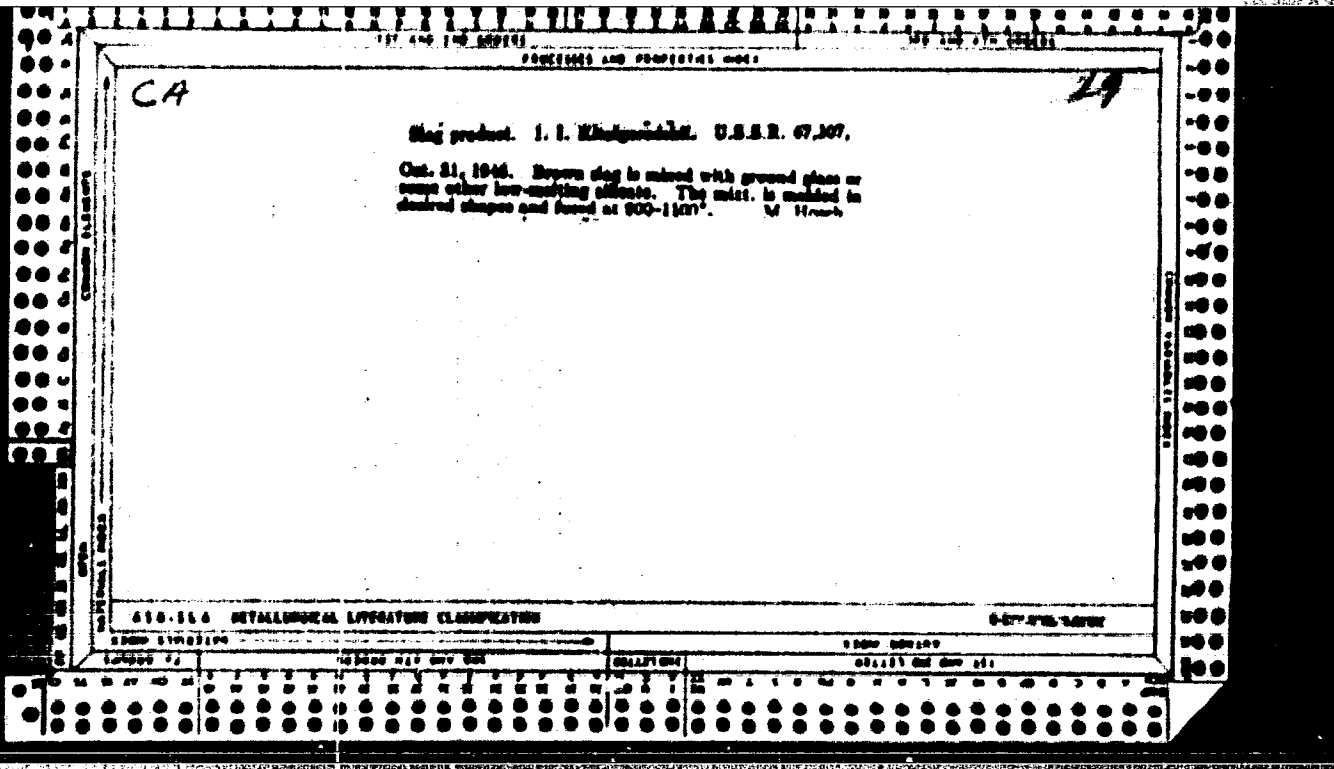
Isothermal shaping of glass (I. I. Kitaygorodskiy and S. A. Dikunin. *Doklady Akad. Nauk S.S.S.R.*, 50, 181-84 (1945). 4-5 50

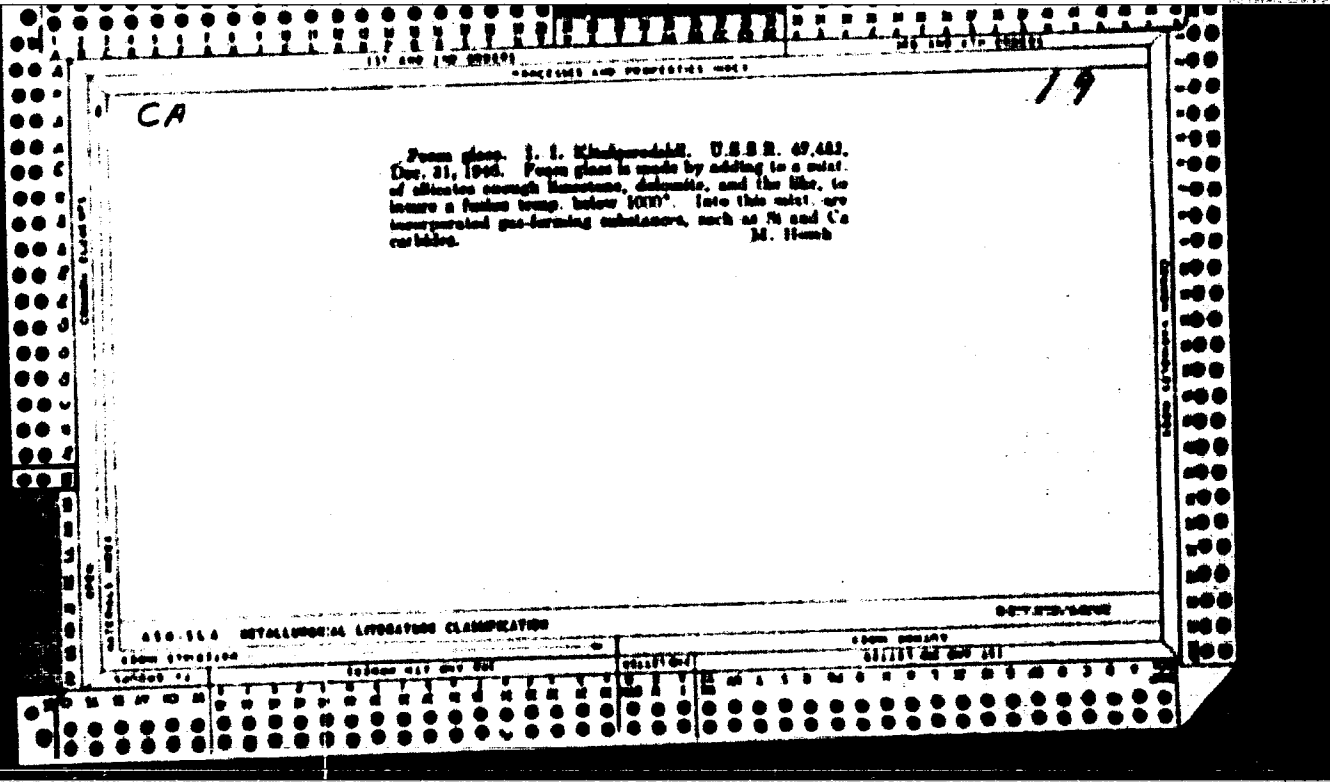
The essential feature of this method is the creation of an isothermal condition in each given layer (section taken parallel to the main plane) of the shape, with unavoidable temperature gradient between the outer and inner layers (up to the moment of complete solidification) and with equalization of the temperature of symmetrically situated layers. Thus, in shaping a plane glass object (plate or sheet), the side facets remain plastic up to the moment of complete solidification, thereby facilitating uniform settling. The creation of an isothermal condition and of equalized tensions within the object being shaped is accomplished by using isothermal molding equipment. A chrome-plated steel mold was used to prepare, at 1145°C., one thousand 200 x 200 x 15 to 35 mm. plates from Fourcault glass having a composition of SiO<sub>2</sub> 72, Al<sub>2</sub>O<sub>3</sub> 0.2, Fe<sub>2</sub>O<sub>3</sub> 0.1, CaO 9.0, MgO 0.2, SO<sub>2</sub> 0.4, K<sub>2</sub>O 1.0, and Na<sub>2</sub>O 17.0%. By means of electric heating and proper exterior insulation the temperatures of the die and punch were raised from the usual 225° and 125° to 340° and 150°, respectively. Geometricity of the plates was not inferior to that of polished plates. Variation in length and width was not over ±0.5 mm. against an allowable +1 to 2 mm.; thickness difference was 0.70 mm. against an allowable 1 mm. Not one of the plates cracked when removed from the mold and cooled in the air; of the 250 plates subjected to grinding and polishing, not one cracked during the process. P. Z. K.

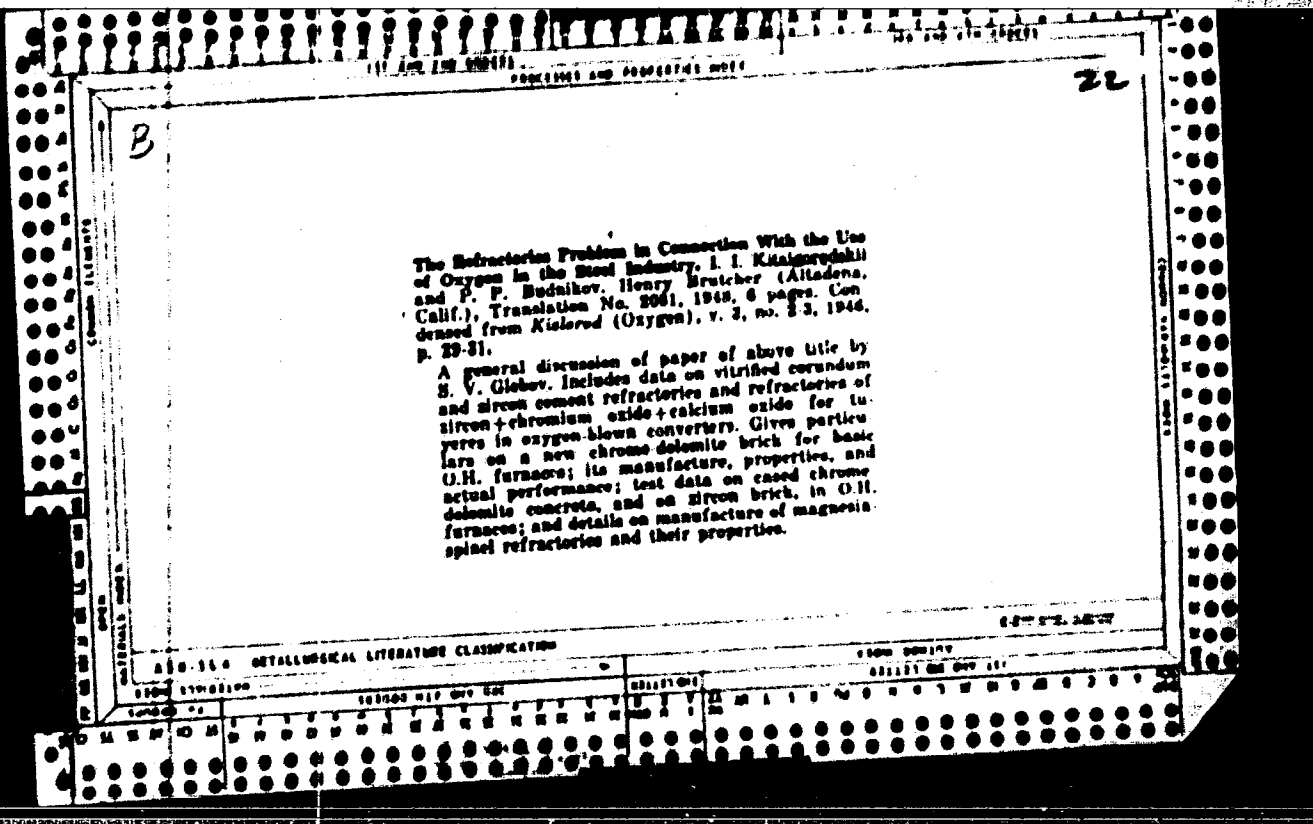


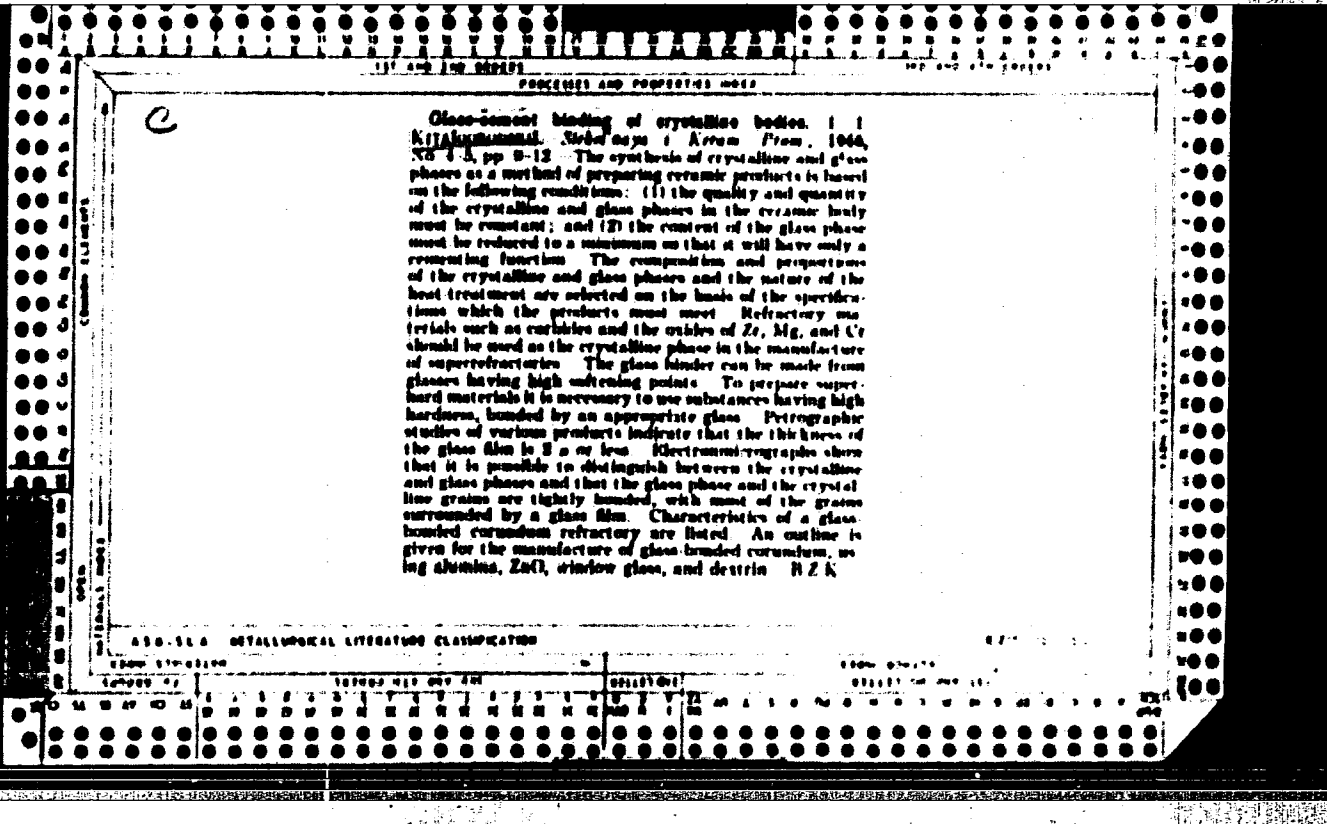


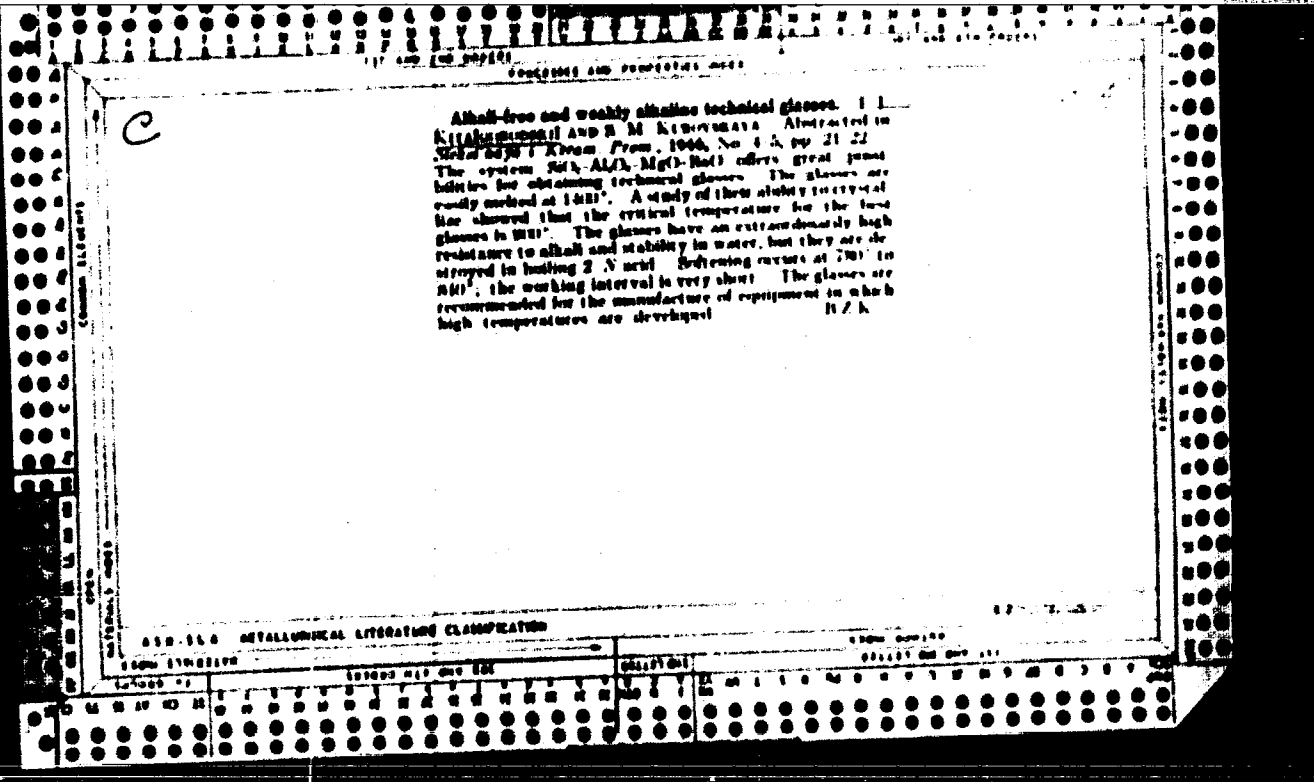


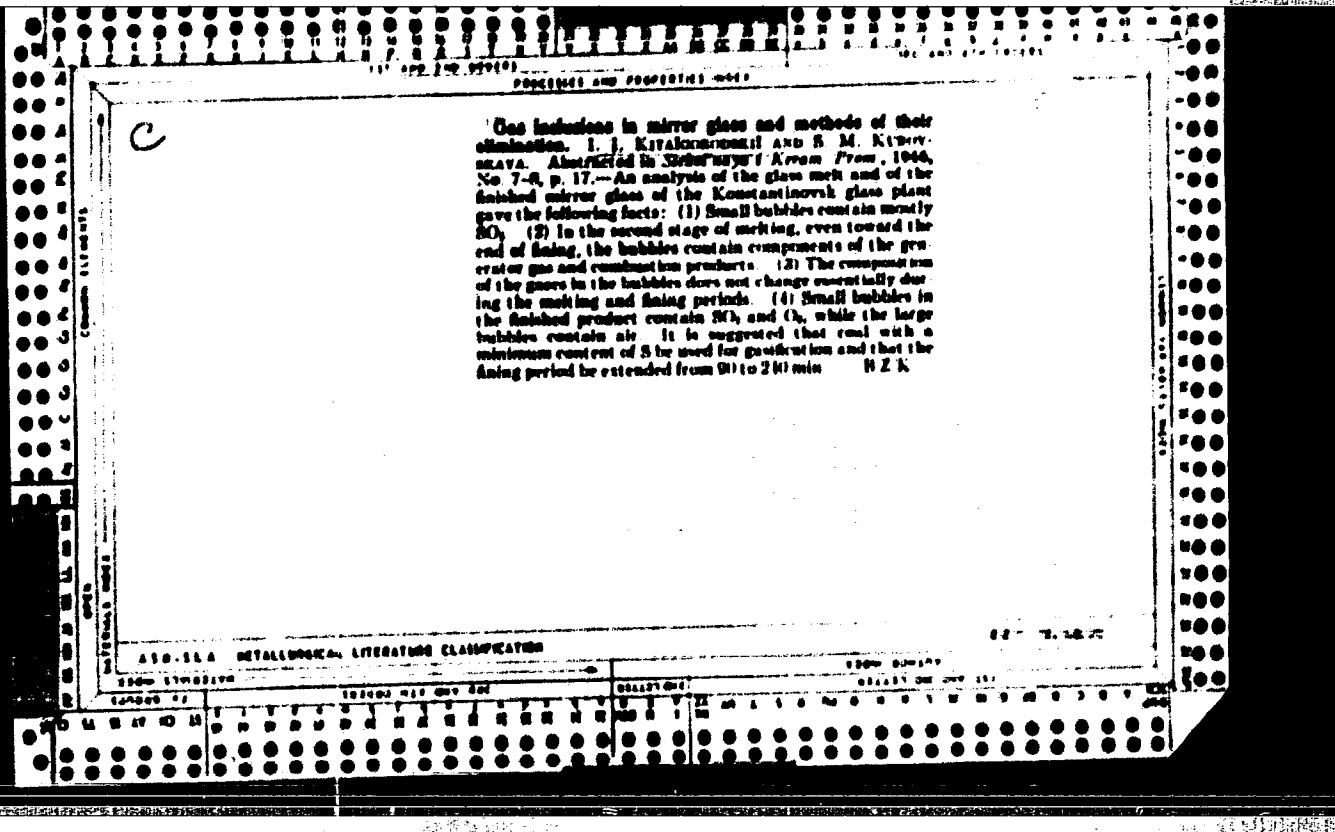










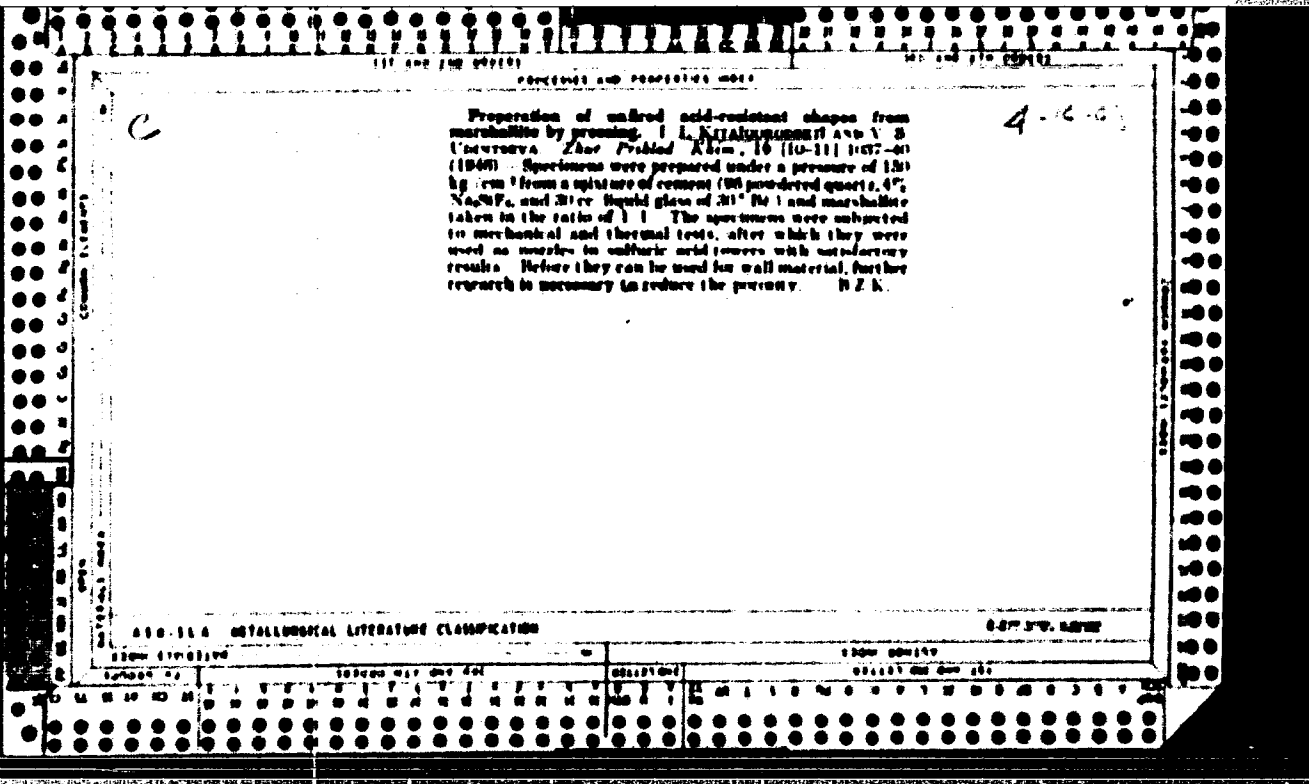




P

**Khatkovskii, L. I. (USSR) BUREAU OF CHEMISTRY AND PHYSICS OF THE ACADEMY OF SCIENCES, MOSCOW, 11 (2) 15-24 (1968)** Investigation was extended and was concerned with the preparation of the solid phase, composition and quantity of glass, temperature of firing, and physicochemical properties of alumina and electrocrucium refractory. Starting materials were corundum, cullet, and alumina. Cullet was ground to pass a sieve having 10,000 openings/cm<sup>2</sup>. A charge of corundum or alumina and 1, 4, 8, 12, or 24% by weight of glass was ground to pass a sieve of 600 openings/cm<sup>2</sup>. Briquettes were made with a bond of benzene solution of rutile and fired at 1400°C. A fraction of  $\gamma$ -alumina, finely ground and mixed with 1% ZnO, was reduced at 1400°C. The resulting product was almost completely  $\alpha$ -alumina. Briquettes made from glass and calcined finely ground  $\alpha$ -alumina and fired at 1400°C had a water absorption of 0.1%; and a compressive strength of 420 kg/cm<sup>2</sup> compared with 21% and 420 kg/cm<sup>2</sup> for briquettes made with untreated  $\gamma$ -alumina. The neutral glasses were most active with respect to the alumina; the quartz and Pyrex glasses caused the destruction of the

briquette during the firing. Increase in glass content from 2% to 12% results in a sharp water absorption from 5.8% to 11.0%, while the setting stays at about 12 to 13%. In the case of briquettes made from electrocrucium, an increase in glass content from 1 to 9% caused the water absorption to drop from 12.5 to 9.3%, while the setting increased up to 3%. By raising the firing temperature from 1400° to 1600°C the water absorption was reduced to 4.20% while the setting was increased to 3.5%. Both alumina and electrocrucium briquettes had a refractoriness of 1800°C. In general, the new material fired at 1400° to 1600°C is not inferior to ordinary corundum superrefractories fired at 1700° to 1800°C. This method should find application in making shapes which must meet rigid specifications for porosity and corrosion and erosion resistance.



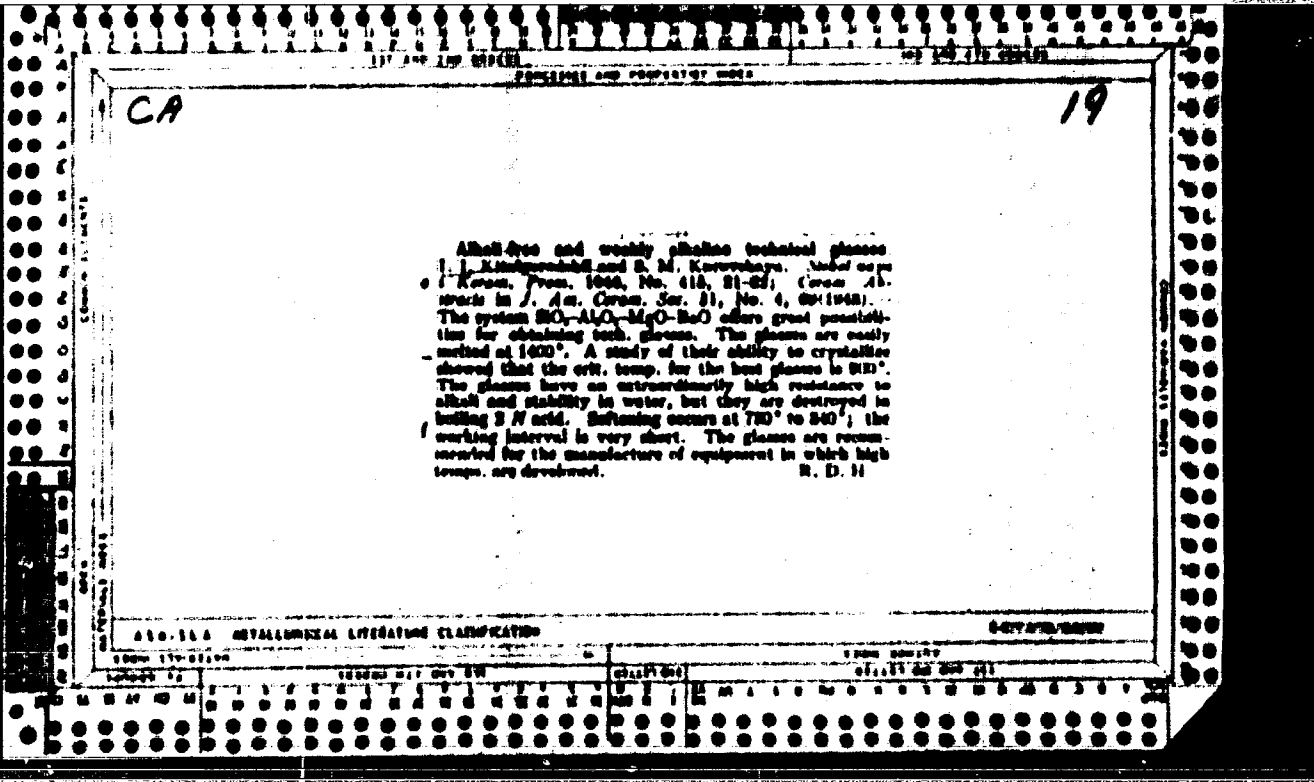
KITAIGORODSKII, I. I.

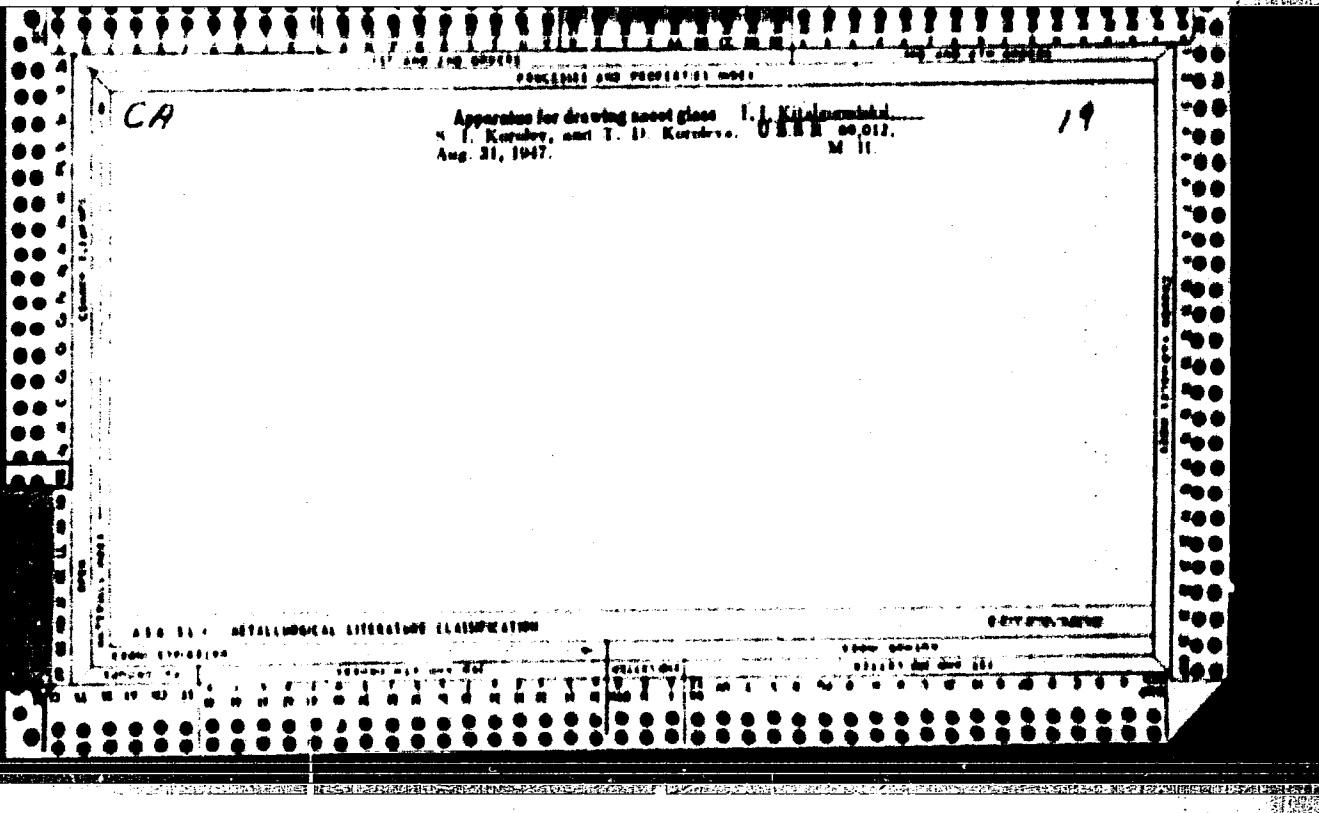
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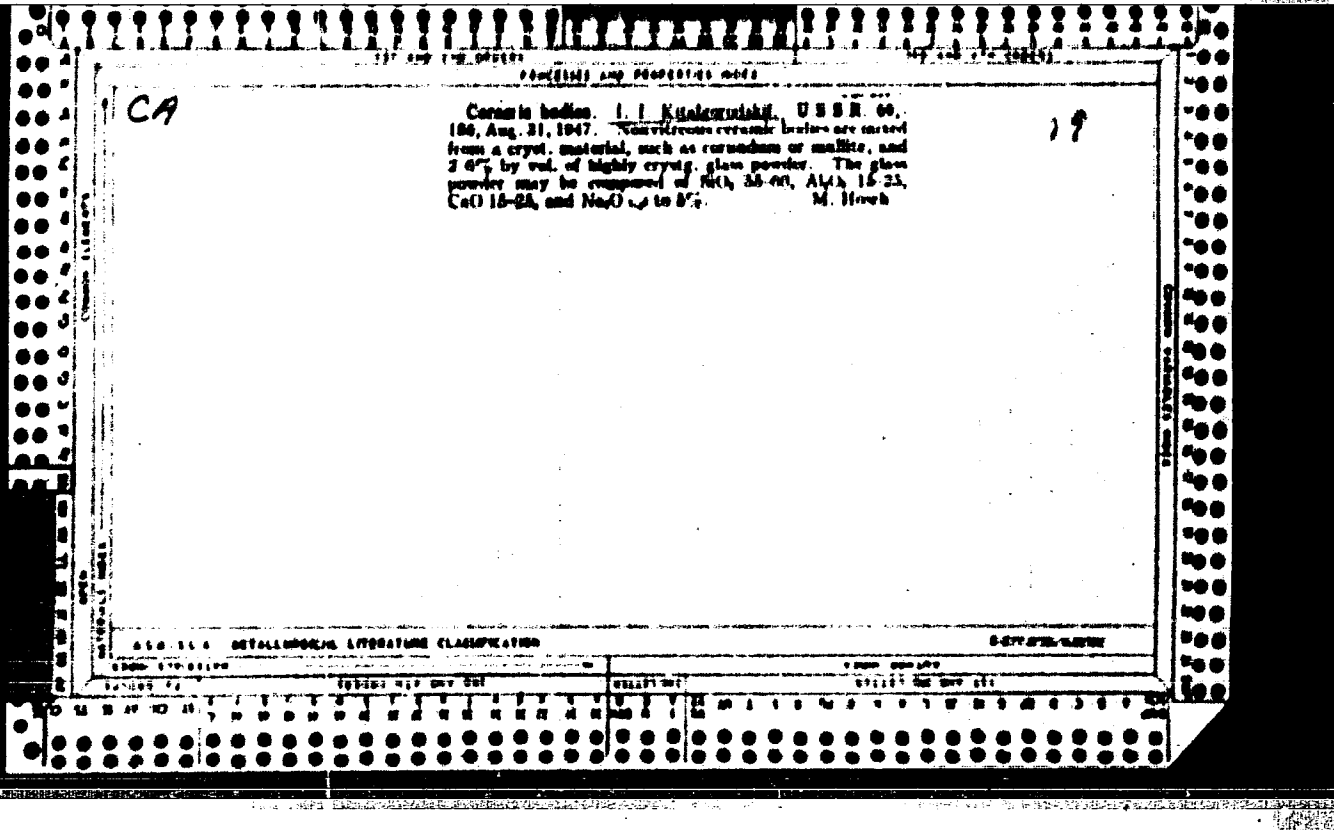
11-11

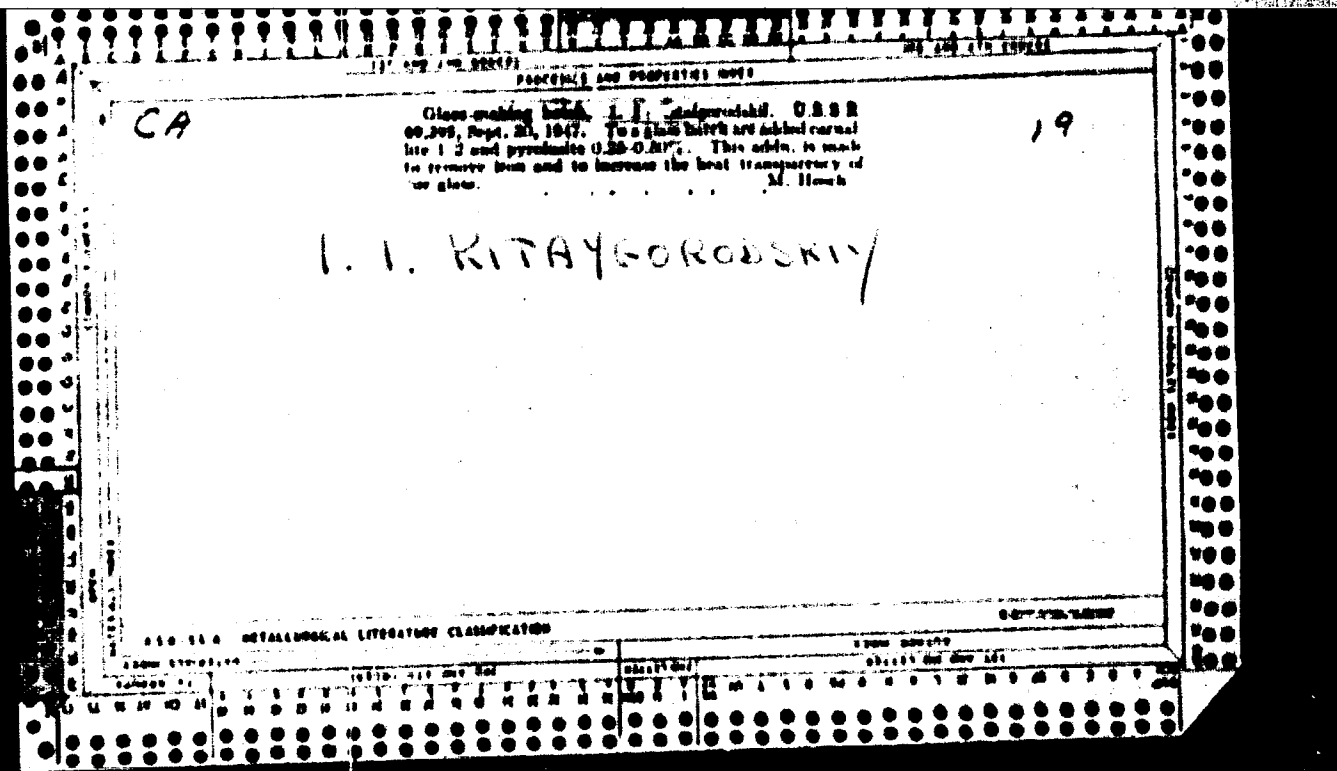
VERSATILE USES OF ZIRCONIA-CONTAINING NEPHELINE-SYENITES.  
I. I. Kitaigorodskii. Compt. rend. acad. sci. U.R.S.S.,  
51, 619-20 (1946); abstracted in Chem. Zentr., 118 [1/2]  
83 (1947). -- Nepheline-syenite, which is abundant in Rus-  
sia, can be used as starting material for the manufacture of  
technical glasses and ceramic materials after the Zr-rich  
constituents have been separated for the manufacture of  
highly refractory apparatus with a ZrO<sub>2</sub> base. The unde-  
sirable content of Fe<sub>2</sub>O<sub>3</sub> can be removed by roasting with  
HgCl<sub>2</sub> M.Ha

COMBINE ELEMENTS  
1946







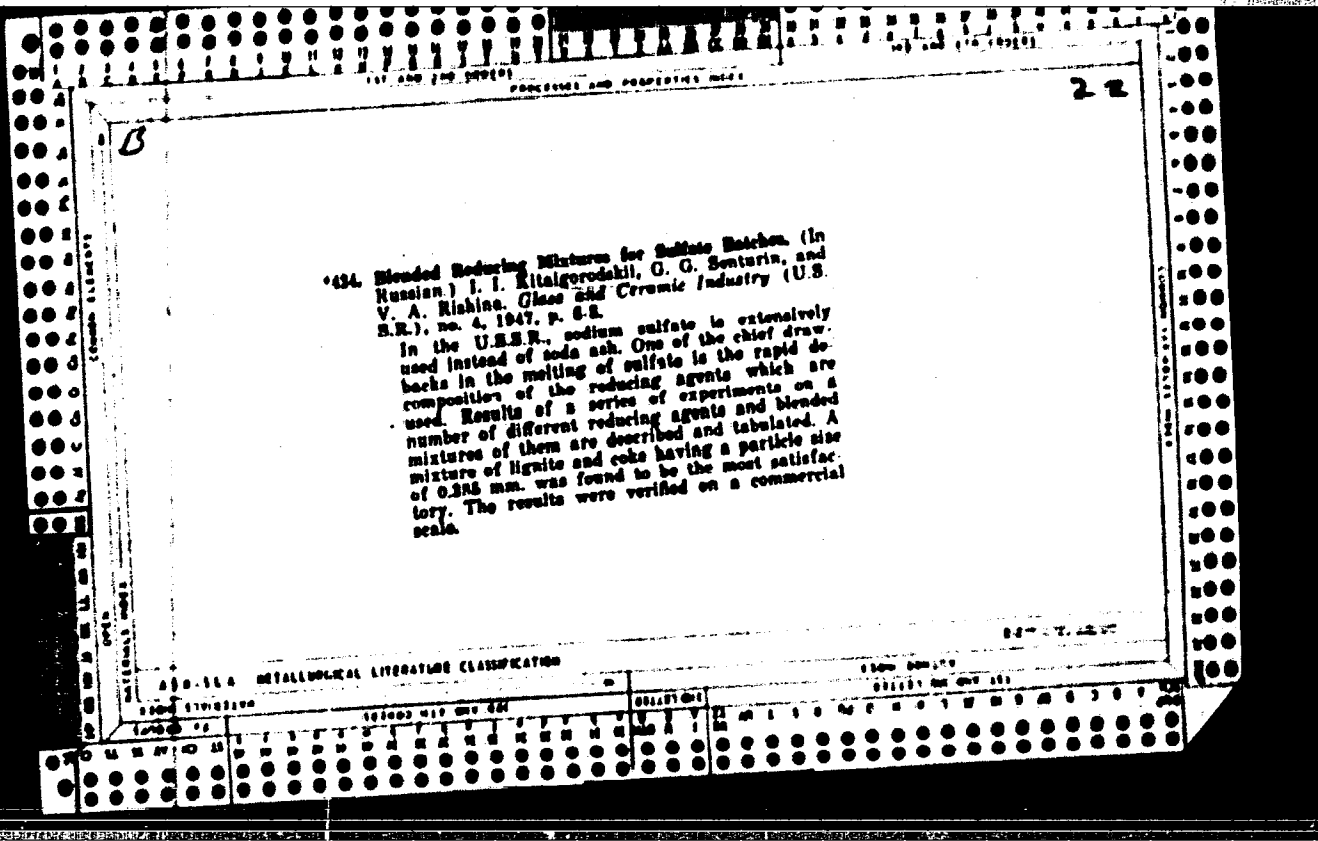


19

CA

Shaped products of fused glass. L. J. Kitchin, U.S. Pat. 2,820,000, Dec. 31, 1957. For the production of sheets, blocks, and the like, of fused glass, it is important that the melt used have a wide cooling interval, that the cooling be even and gradual, and uniform throughout the entire thickness. It is therefore important that slow solidifying glasses having a minimal crystal tendency and a low coeff. of thermal expansion be used. Suitable dry mix consists of: powd. glass of appropriate compn. 90-97, gas-filling substance 1-3, and powd. substance 3-4%.  
G. C. A. J. 7867c. M. H. Lamb





KITAYG. ROD'KIY, I. I.

PA 1PT26

USSR/Refractory Materials

Aug 1947

"'Steklokorund' -- A New High Refractory Material,"  
Prof I. I. Kitaygorodskiy, N. V. Solomin, A. I.  
Polinkovskaya, S. F. Volchanov, 2 pp

"Legkaya Promyshlennost'" Vol VII, No 8 p. 23-4

Technical description of new refractory material  
(steklokorund) including properties of the material,  
ingredients, etc.

1826

KITAYGOTODSKIY, I. Ye. Prof.

Chemical Engineering

Graduate, Moscow Chemical-Technological Institute Mendeleev

Cn - Technology of Silicates & of Building Materials, Co-author

Soviet Source: Iz Khimicheskaya Promyshlennost' Dec. 1947, Moscow  
Abstracted in USAF "Treasure Island" Report No. 35681, on file in Library of Congress,  
Air Information Division.

PA 57704

KITAYGORODSKIY, I. I.

May 1947

USSR/Minerals  
Cement  
Glass

"Theory of Glass-Cement Binding of Crystal Bodies,"  
I. I. Kitaygorodskiy, N. V. Solomin, 2 pp

"Dok Akad Nauk SSSR, Nova Ser" Vol LVI, No 6

Explains great stability of a glass-cement body in  
operation of highly aggressive fusion and its high  
mechanical qualities in temperature exceeding melt-  
ing point of glass by several hundred degrees. Sub-  
mitted by Academician D. S. Belyankin, 23 Dec 1946.

58704

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19

Highly refractory zircon-containing brick produced from  
a base of the zircon concentrate from Markopol. I. I.  
Klyuchevskii (Chem.-Tech. Ministry Inst., Moscow).  
Doklady Akad. Nauk S.S.S.R. 56, 529-31 (1947); Chem.  
Zvest. 1947, B, 1029-31.—A concentrate, high in zircon,  
obtained from deposits in the Markopol region (Ukraine)  
proved very satisfactory for the production of highly re-  
fractory, corrosion-resistant products with low cost, of  
excellent and free from polymorphic transitions. The  
material was heated to 1450°, then divided, and part of it  
from Fe. Test pieces were prepared from both batches  
by subjecting to a pressure of 1000 kg./sq. cm. No addition  
of plasticizer or bonding agent was required. The re-  
fractoriness of the Fe-free material was superior to that of  
the part containing Fe. The Fe-free concentrate contained:  
ZrO<sub>2</sub>, 91.80, SiO<sub>2</sub>, 91.80, FeO, 0.13, Al<sub>2</sub>O<sub>3</sub>, 8.80, and Na<sub>2</sub>O  
3.00%.  
M. G. Mourv

KITAYGORODSKIY, I.I.

Kitaygorodskiy, I.I. "Complex use of mariupolites." in symposium:  
Syr'sovaniya, Moscow-Leningrad, 1948, p. 79-84

SO: U-2888, Letopis Zhurnal'nykh Statey, No. 1, 1949

KITAYGORODSKIY, I. I.

Kitaygorodskiy, I. I. - "Toward advanced technology in the manufacture of glass,"  
Trudy Tekhn. konf-tsil' naobshchikov stekol. prom-sti, Moscow, 1968, p. 122-3.

SO: U-3600, 10 July 68. (Letopis 'Zhurnal Vyssh. Shkoly, No. 6, 1968).

PA 5/49718

APPROVED FOR RELEASE: 09/17/2001

CIA-RDP86-00513R000722920005-

Uses/Engineering

Ceramics

Glass - Bonding

May 48

"Glass Cementation Ceramics," I. I. Kitaygorodskiy,  
3 pp

"Priroda" No 5

Discusses development of the technique whereby  
glass is used as the bonding material in ceramic  
technology. Describes basic mixing and firing  
methods.

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e

**Glass ceramites.** I. I. Kovalenko, N. V. Buzin, A. I. Poluninova, and B. P. Vecherov (Zhurnal, 13 (1) 22 24 (1968). In the laboratory, technical alumina was mixed with 1% ZnO and fired to 1400°C to insure maximum transformation of  $\gamma$ -alumina to a stannite prior to mixing the charge (organic binder (not specified) and water were added to the charge in amounts required for acidity tonnage (hand and pour state), and the bars were fired at 1600° to 1800°. For comparison, bars were prepared from 77% Chance Var clay grog and 23% Chance Var binding clay. Compared with the multiprog product, the glass ceramite had a firing shrinkage 7 to 8 times as large, an apparent porosity 2 to 3 times as large, and a resistance to sulfate liquor 12 to 23 times as great. Shellac cellulose extract is recommended as a plasticizer because of its slow evaporation within a wide temperature range. The firing shrinkage was considerably improved by firing a portion of the charge in the form of briquettes, grinding the briquettes, and adding the glass-cement gres in amounts of 20 to 25% to the original charge. On a commercial scale, use was made of technical alumina analyzing not less than 97.5%  $Al_2O_3$ , not over 0.5%  $FeO$ , not over 0.05%  $Fe_2O_3$ , not over 0.7%  $Na_2O$ , and ignition loss about 1.5%. As a glass binder, cullet of ordinary composition was used. Bars were prepared by pneumatic tonnage. Air shrinkage was less than 1%. Products were fired for ten days and held for 24 hr. at a maximum temperature of 1800° to 1850°C. The properties were better than those of laboratory specimens; bulk specific gravity was 3.06, and apparent porosity was about 10%. N. Z. K.

ASO 514 METALLURGICAL LITERATURE CLASSIFICATION



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2

The Vase with Gilded Glass and the role of glass in  
 the industry. In: *Uspokhi Khim.*  
 17, 158-162 (1955). Summary of scientific glass  
 manufacture in Russia and the role played in it by G.  
 G. Kuznetsov. G. M. Kuznetsov

ASS. S.L.A. METALLURGICAL LITERATURE CLASSIFICATION  
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The process of glass formation in the heating of a four-component magne-silicate batch. I. I. Kharin, V. I. Tyburtskiy (D. I. Mendeleev Chem. Technol. Inst.), *Doklady Akad. Nauk S.S.S.R.* 20, 1148-50 (1946).—The batch,  $\text{SiO}_2$  73.89,  $\text{CaO}$  8.85,  $\text{Na}_2\text{O}$  12.33,  $\text{MgO}$  3.85%, corresponding to the 8-component batch recommended for Pyrocrack sheet glass production,  $\text{SiO}_2$  71.5,  $\text{CaO}$  8.5,  $\text{Na}_2\text{O}$  12.0,  $\text{MgO}$  3.8,  $\text{Al}_2\text{O}_3$  1.2, with  $\text{Al}_2\text{O}_3$  omitted but with the same ratios of the remaining 6 components, was made up from pure  $\text{Na}_2\text{CO}_3$ ,  $\text{CaCO}_3$ ,  $\text{MgCO}_3$ , and  $\text{SiO}_2$  (0.05-mm. grains) dried at  $150^\circ$ . Thermograms of this quaternary salt, show the same thermal effects as the ternary batches  $\text{MgCO}_3$ - $\text{Na}_2\text{CO}_3$ - $\text{SiO}_2$  and  $\text{CaCO}_3$ - $\text{Na}_2\text{CO}_3$ - $\text{SiO}_2$ ; the same applies to the plot of loss of wt. as a function of temp. By concurrent indications of the 3 plots, elimination of  $\text{CO}_2$  begins at  $310^\circ$  and becomes more intense at  $380^\circ$ ; the heating arrest becomes particularly pronounced at  $630^\circ$ , with a slight max. at  $610^\circ$ , corresponding to mass. dissoc. of  $\text{MgCO}_3$  and an intense reaction  $\text{MgNa}_2(\text{CO}_3)_2 + \text{SiO}_2$ . The arrest continues in the range  $600$ - $630^\circ$  owing to the reactions  $\text{CaNa}_2(\text{CO}_3)_2 + 2\text{SiO}_2 \rightarrow \text{CaSiO}_3 + \text{Na}_2\text{SiO}_3 + 2\text{CO}_2$ ;  $\text{CaCO}_3 + \text{SiO}_2 \rightarrow \text{CaSiO}_3 + \text{CO}_2$ ;  $\text{Na}_2\text{CO}_3 + \text{SiO}_2 \rightarrow \text{Na}_2\text{SiO}_3 + \text{CO}_2$ . The endothermal effect at  $780$ - $890^\circ$ , max. around  $800^\circ$ , corresponds to fusion of a series of eutectics of silicates of Ca, Mg, and Na and of  $\text{CaNa}_2(\text{CO}_3)_2$  with  $\text{Na}_2\text{CO}_3$ . The peak at  $858^\circ$ , corresponding to fusion of  $\text{Na}_2\text{CO}_3$ , is shared on the quaternary thermogram but is distinct on the ternary curves. The last endothermal effect, at  $915^\circ$ , corresponds to dissoc. of the remainder of  $\text{CaCO}_3$ . From  $900^\circ$  up, heating is accelerated, showing an exothermal effect with a broad max.  $1050$ - $1150^\circ$ , reflecting the reactions  $\text{MgO} + \text{SiO}_2 \rightarrow \text{MgSiO}_3$  and  $\text{CaO} + \text{SiO}_2 \rightarrow \text{CaSiO}_3$ . Microscopic exam. of batches heated to various temps. from  $390$  to  $1250^\circ$ .

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shows: formation of the double salts  $\text{MgNa}_2(\text{CO}_3)_2$  and  $\text{CaNa}_2(\text{CO}_3)_2$ ; below  $400^\circ$  (the former salt appears at  $340^\circ$ ); formation of Mg silicate at  $630^\circ$ ; formation of Ca silicates, and interaction with Mg silicates to pyroxene crystals, from  $800^\circ$  upward; appearance of a liquid phase at  $900^\circ$  (i.e. below the melting temp. of  $\text{Na}_2\text{CO}_3$ ); fusion of all components (with the exception of some unaltered but corroded quartz grains) at  $1270^\circ$ . On the basis of the results of all 3 methods of study of both the quaternary and the binary systems, the reactions taking place in  $\text{MgCO}_3 + \text{CaCO}_3 + \text{Na}_2\text{CO}_3 + \text{SiO}_2$  of the given composition are: formation of  $\text{MgNa}_2(\text{CO}_3)_2$ , below  $305^\circ$ ; beginning dissoc. of  $\text{MgCO}_3$ ,  $370^\circ$ ; beginning formation of  $\text{CaNa}_2(\text{CO}_3)_2$ , below  $610^\circ$ ; beginning dissoc. of  $\text{CaCO}_3$ ,  $680^\circ$ ; reaction  $\text{MgNa}_2(\text{CO}_3)_2 + 2\text{SiO}_2 \rightarrow \text{MgSiO}_3 + \text{Na}_2\text{SiO}_3 + 2\text{CO}_2$ ,  $640$ - $630^\circ$ ; reaction  $\text{MgCO}_3 + \text{SiO}_2 \rightarrow \text{MgSiO}_3 + \text{CO}_2$ ,  $440$ - $700^\circ$ ; reaction  $\text{CaNa}_2(\text{CO}_3)_2 + 2\text{SiO}_2 \rightarrow \text{CaSiO}_3 + \text{Na}_2\text{SiO}_3 + 2\text{CO}_2$ ,  $850$ - $600^\circ$ ; intense progress of the reaction  $\text{Na}_2\text{CO}_3 + \text{SiO}_2 \rightarrow \text{Na}_2\text{SiO}_3 + \text{CO}_2$ ,  $700$ - $600^\circ$ ; reaction  $\text{CaCO}_3 + \text{SiO}_2 \rightarrow \text{CaSiO}_3 + \text{CO}_2$ ,  $900$ - $680^\circ$ ; max. rate of dissoc.  $\text{MgCO}_3 \rightarrow \text{MgO} + \text{CO}_2$ ,  $680^\circ$ ; appearance of liquid (consists of Mg and Na silicates and  $\text{SiO}_2$ ) and of double carbonates with  $\text{Na}_2\text{CO}_3$ ,  $780$ - $890^\circ$ ; max. rate of dissoc.  $\text{CaCO}_3 \rightarrow \text{CaO} + \text{CO}_2$ ,  $915^\circ$ ; intense progress of the reaction  $\text{MgO} + \text{SiO}_2 \rightarrow \text{MgSiO}_3$ ,  $980$ - $1180^\circ$ ; intense progress of  $\text{CaO} + \text{SiO}_2 \rightarrow \text{CaSiO}_3$ ,  $1010$ - $1180^\circ$ ; reaction  $\text{CaSiO}_3 + \text{MgSiO}_3 \rightarrow \text{CaMgSi}_2\text{O}_7$ ,  $900$ - $1270^\circ$ ; melt. of  $\text{SiO}_2$  and of Ca and Mg silicates in the melt,  $1130$ - $1200^\circ$ . In the quaternary batch with  $\text{MgO}$ , all reactions of dissoc. of carbonates and of silicate formation begin earlier and progress more intensely than in the ternary  $\text{CaO}$ - $\text{Na}_2\text{O}$ - $\text{SiO}_2$ . N. T. ...

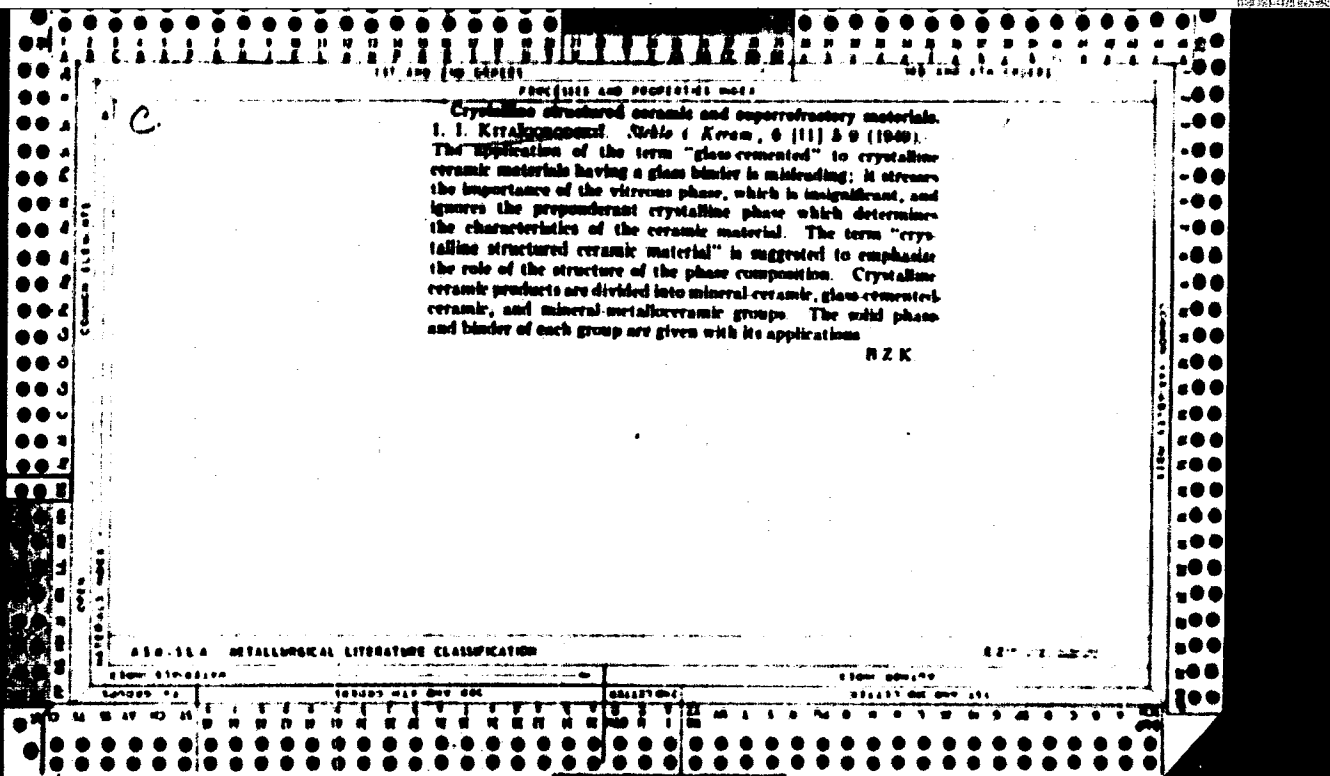
KITAYGORODSKIY, I.I.; STEPANOV, G.A.

Ceramic bodies and products. Patent U.S.S.R. 78,331, Dec. 31, 1949.  
(CA 47 no.19:10194 '53)

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Glasforming in a sulfate charge. I. I. Kizilchikov, J. G. Kuznetsov, and V. A. Kuznetsov. *Soviet Patent*, 6 (1) 3-4 (1960). In preliminary experiments, mixtures of  $\text{Na}_2\text{SO}_4$  and  $\text{SiO}_2$  with mole ratios of  $\text{SiO}_2/\text{Na}_2\text{SO}_4$  ranging from 1 to 4 were heated for 1 hr. at 600, 700, 800, 900, 1000, and 1100° in the presence of graphitized electrode C, coke, coal, activated C, charcoal, and  $\text{SnCl}_2$ , electrode C proved the most resistant to combustion. Mixtures of quartz sand,  $\text{Na}_2\text{SO}_4$ , and electrode C (6, 7, and 8°, by wt. of sulfate) were treated as follows: (1) gradually heated to 700, 800, 900, 1000, 1100, 1200, 1250, and 1300° and kept at temperature for 15 to 120 min.; (2) placed in a furnace previously heated to the desired temperature and then kept for 15 to 120 min. At 900° and 1000° there was no difference in extent of decomposition of sulfate between treatments 1 and 2. Above 1200° the reaction in the mixture of treatment 1 proceeded more intensively. At 1250° the charge in 1 was completely vitrified while the charge in the mixture of treatment 2 looked like fused rock. Best results were obtained with 7°, reducing agent. Experiments with a charge consisting of 80%  $\text{SiO}_2$ , 14%  $\text{Al}_2\text{O}_3$ , 4%  $\text{CaO}$ , 2%  $\text{MgO}$ , 3%  $\text{Na}_2\text{SO}_4$  to which was added 7°, reducing agent (electrode C) and 1%  $\text{CaF}_2$  indicate that maximum decomposition of the sulfate occurs at 1300° by method 1.

DETAILED LITERATURE CLASSIFICATION



USSR/Chemistry - Glass Formation Jan 49  
Chemistry - Sulfates, Glass Refining by

"Kinetics of Glass Formation in Sulfate Furnace  
Charges," I. I. Kitaygorodskiy, G. G. Sentyurin,  
V. A. Rishina, Moscow Chemicotech Inst imeni D. I.  
Mendeleev, 3 pp

PA 26/4972

"Dok Ak Nauk SSSR" Vol LXIV, No 1, p. 107-9

Process of glass formation in sulfate furnace  
charges is complicated by lack of heat resistance  
in the reducers, which burn out prematurely and  
are absent at high temperatures when neces-  
sary. Recommends that sulfate charges be supplied

26/4972

USSR/Chemistry - Glass Formation (Contd) Jan 49

to the glass furnace in a region heated to tem-  
perature of not less than 1,350° C. Submitted  
6 Nov 48.

И. И. КИТАЙГОРОДСКИЙ

26/4972

KITAYGORODSKIY, I. I.

FA 25/4978

USSR/Chemistry -- Glass  
Chemistry -- Clinkering

Jan 49

"Obtaining High-Siliceous Porous Bodies at Low Temperatures," I. I. Kitaygorodskiy, Moscow Chemicotech Inst imeni D. I. Mendeleev, 3 pp

"Dok Ak Nauk SSSR" Vol LXIV, No 2, p 217-21

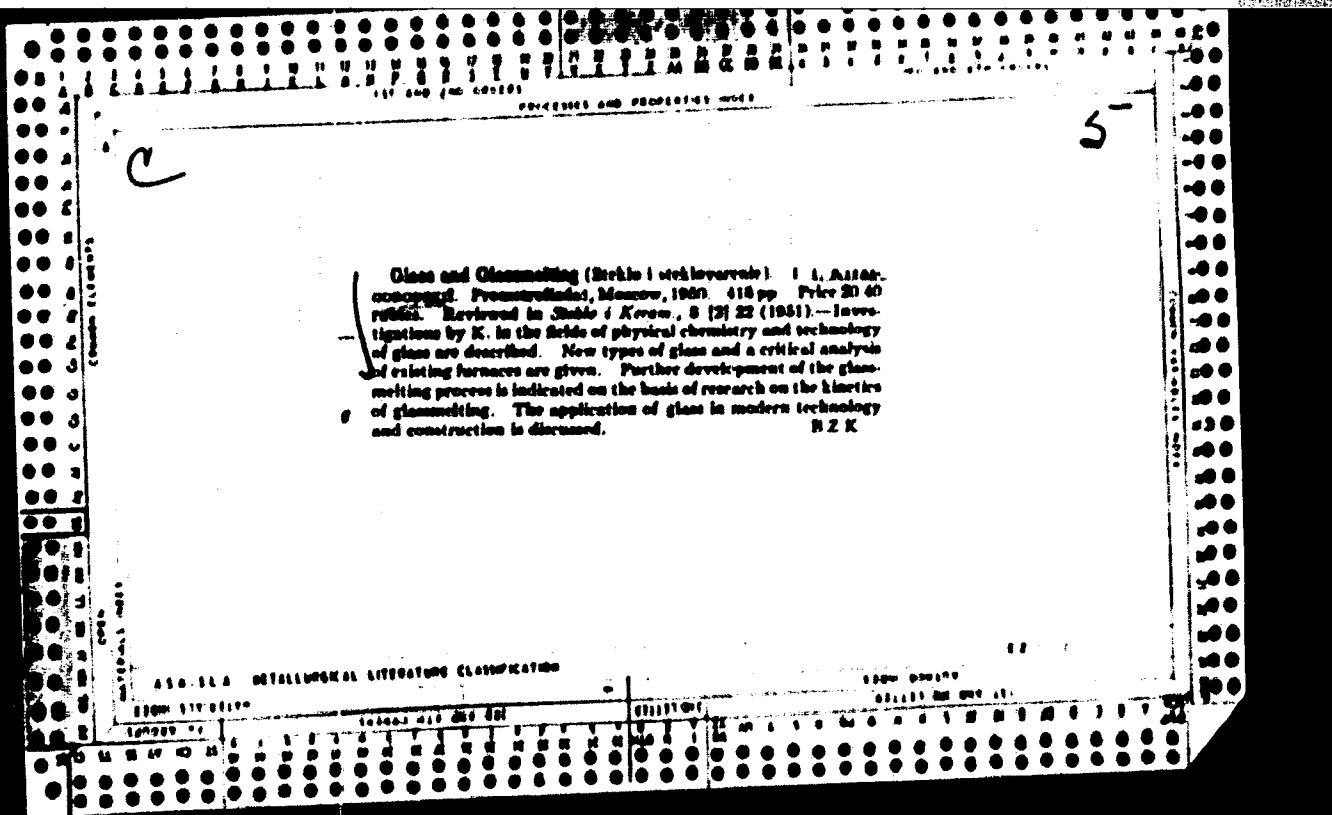
Describes new method for obtaining high-siliceous porous bodies at temperature of only 750°, instead of 1,500° required by usual method of clinkering quartz glass powders. Submitted 6 Nov 48

25/4978

KITAYGORODSKIY, I. I.

"Class Painting and Silencing," 1950

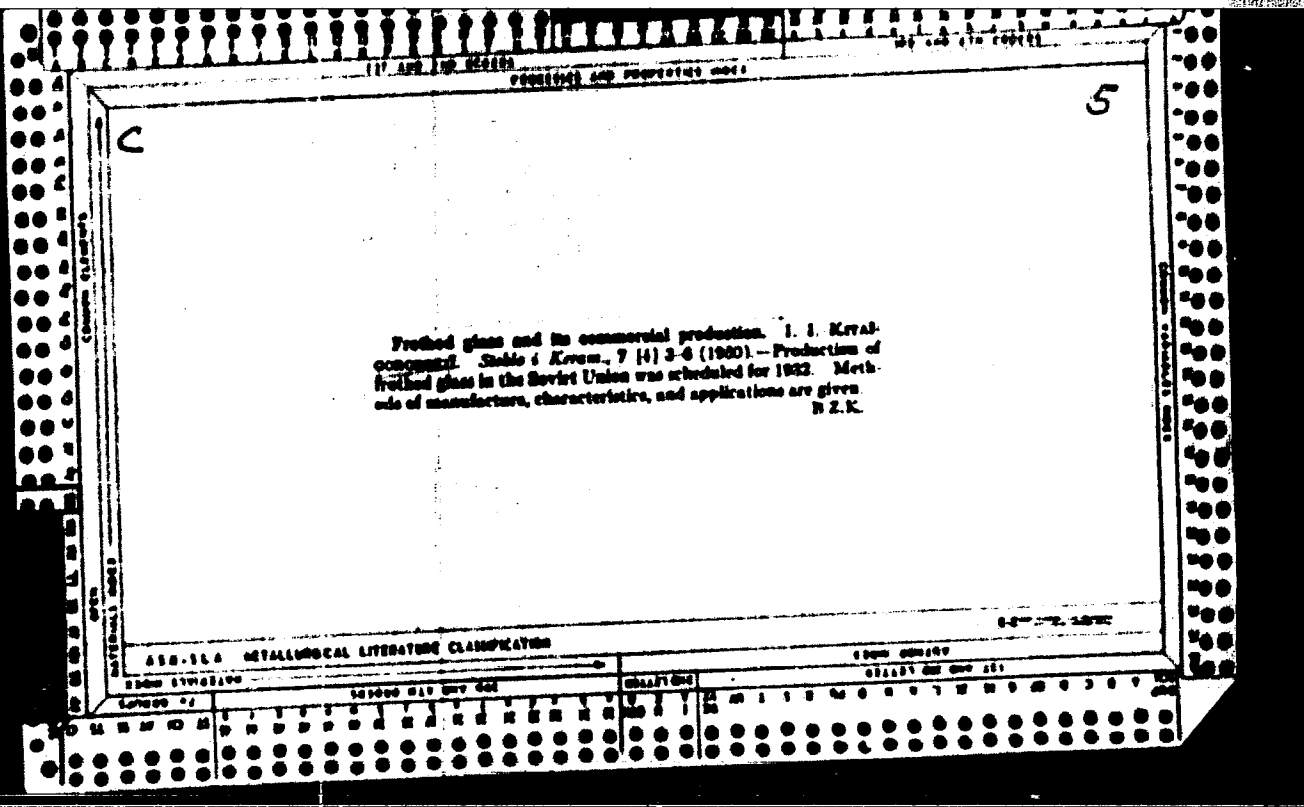




BCS

*Refractories*

1118. Glass-cement ceramics. I. I. KILANOVSKY (Ukraine). No. 6, 354, 1950; abstracted in *Science*, 28, 236, 1950. To conclude the discussion on glass-cement ceramics (see *Abst.*, 1918-1921, 1700 (1950)) the author remarks that the use of the glass mass in glass furnaces is specific and the experiences gained from the use of refractories in the steel industry cannot be applied in the glass industry. Fire-bricks and silica bricks, which formerly could be used in glass tanks, because of the low temp. (1,200°-1,400° C.) and the small size of furnaces, are not suitable for intensive working at 1,500°-1,800° C. No further progress of glass technology is possible without the development of strong, highly refractory ceramic bricks with care promptly. Kilm firing at 1,800° C. must be realized in the shortest possible time.



KITAYGORODSKIY, I. I.

PHASE I

TREASURE ISLAND BIBLIOGRAPHICAL REPORT

AID 597 - I

BOOK

Call No.: AP437939

Authors: KITAYGORODSKIY, I. I., KACHALOV, N. N. and others

Full Title: GLASS TECHNOLOGY. 2nd ed., rev.

Transliterated Title: Tekhnologiya stekla. Izd. 2-e, perer.

PUBLISHING DATA

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Publishing House: State Publishing House for Literature on Building Materials

Date: 1951

No. pp.: 767

No. of copies: 6,000

Editorial Staff

Editor-in-Chief: Kitaygorodskiy, I. I.

PURPOSE: Approved by the Ministry of Higher Education as a textbook in courses in "Technology of Silicates".

TEXT DATA

Coverage: This is a textbook on the theory and principles underlying glass technology and on the physical and chemical properties of glass. Glass production techniques: types of glass-melting furnaces and materials for their construction; mechanical control and automatic regulation devices; processing, forming, finishing and specific treatment of glass for special purposes, e.g., optical glass, glass for electric and electronic appliances, laboratory glass, laminated safety

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